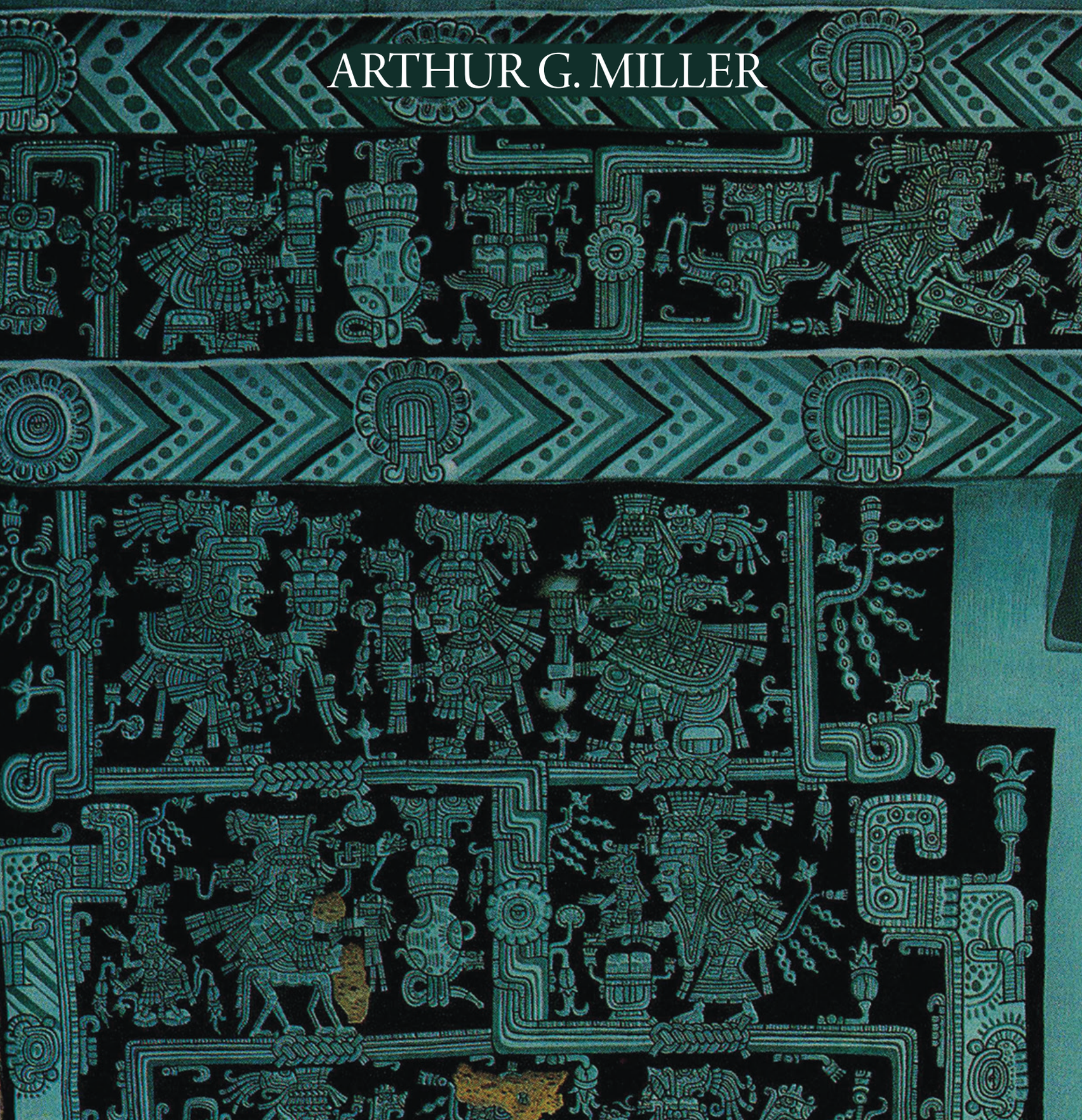
ON THE EDGE OF THE SEA

Mural Painting at Tancah-Tulum, Quintana Roo, Mexico

ARTHUR G. MILLER



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ARTHUR G. MILLER

with appendices by
Joseph W. Ball
Frank P. Saul
Anthony P. Andrews

DUMBARTON OAKS

Trustees for Harvard University
Washington, D.C. 1982

To Don Pepe, Last of the Putun,
And to Don Ricardo, Last of the
Tancah–Tulum Maya

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Preface

A la recherche du temps perdu

A SENSE OF LOSS with the attempt to find again what is lost is an important characteristic of all great past art. This is just as true for the art of ancient America as it is for better-known artistic traditions, and it is especially true for the Maya monumental arts—the complex and spectacular architecture, sculpture, and painting produced in a natural environment that our Western culture finds "hostile." Because the Maya of the east coast of Yucatan executed great mural painting, we would expect to find there something of this sense of loss and of the attempt at retrieval. We do, but it is perceivable only in the context of the environmental and archaeological matrices in which the murals exist. Such is the content of this book.

In a literal sense, the finding of lost objects and information about them constitutes a major endeavor of archaeology and the history of art. In the case of Tancah and Tulum, their murals were in a state of decay and their very appearance as well as their contexts largely unknown. But the sense of loss in the murals to which I refer does not lie in their condition or associations. Besides the recording of a lost painting tradition *per se*, this book strives to say something of what the Tancah–Tulum Maya said that they had lost and how they attempted to find it again expressed through the medium of their mural art. We shall see that the Maya saw such matters in ritual terms and that the murals "explain" visually the natural cyclic phenomena that were part of their own unique physical environment as well as their economic and political experience. In this sense, their painting is explanation, a visual rationalization for such fundamental phenomena as the sunrise and the Venus cycle which the Maya anthropomorphized as the repeated exploits of important myth-makers in their cosmology and history. And their painting embodies the social conflicts which are inevitably a result of being situated on an edge of Mesoamerica, facing a cultural void: the sea.

THE PROBLEM

My study of Teotihuacan murals (Miller 1973a) placed as many paintings as possible in their original architectural settings, and I have tried to make such a fundamental record for Tancah–Tulum as well. Here, however, I have also attempted to go beyond basic description, to say something of what murals may have meant for the Tancah–Tulum Maya. Fundamentally, the meaning of these Maya murals, still extant in their environmental and archaeological settings, is religious, and an understanding of an aspect of Maya religion in this marginal region of Mesoamerica is at the heart of this study. Religion is one of the most difficult subjects in the study of Maya prehistory, not only because it includes—without forming distinct boundaries—what we call in our industrialized Western tradition "secular activity," but also because much of its specific meaning died out after the Spanish conquest, with the last of the Maya priests. Since little of their writing has been preserved, and that which has survived is still not well understood, we have to try to piece together some of the coherence of Maya thought and religion primarily from visual evidence. I see the paucity of written evidence as a challenge, in that it has made me see Tancah–Tulum with fewer preconceptions. I see it as an abstraction.

Because the Maya never separated religion from "secular activity," we shall see that the Tancah–Tulum murals in part embody rises and falls experienced in their commercial and political interactions with the rest of Mesoamerica.

This manuscript was written three years ago at Dumbarton Oaks and in Philadelphia. While the information given here remains the same then as it does now, were I to write this text in 1981, it would be a different book. My research interests have evolved.

AGM
Philadelphia
1981

Acknowledgments

A PROJECT AS COMPLEX as Tancah–Tulum inevitably involves many different institutions and individuals, and I have been most fortunate in receiving help and encouragement from almost all of them. From its inception in 1971 and throughout the seasons of field work (1972–1976), the Program in Pre-Columbian Studies at Dumbarton Oaks has been the principal sponsor. Financial aid also came from the Committee for Research and Exploration of The National Geographic Society, particularly for archaeological excavations in 1974 and 1975. The Brooklyn Academy of Arts and Sciences and The Mexican–Canadian Foundation contributed funds to the excavation seasons as well.

No archaeological work can proceed in Mexico without the authorization of the Instituto Nacional de Antropología e Historia; we are grateful to have been granted permission and cooperation from that governmental agency to carry out the research described in this book. We were also fortunate in receiving cooperation and important logistical support from the Centro Regional del Sureste, the official representative of the Instituto in Yucatan, Campeche, and Quintana Roo. Several Mexican government officials, who were directly charged with the regulation of our work in Quintana Roo, went out of their way to help us overcome the myriad problems inevitably associated with projects of this kind. They include: Norberto González Crespo, Director of the Centro Regional del Sureste; David Gustavo Gutiérrez-Ruíz, former Governor of the Territory and State (as of 1975) of Quintana Roo; and Eduardo Matos Moctezuma, former President of the Consejo Técnico Arqueológico of I.N.A.H.

The current owners of the land on which the archaeological site of Tancah is situated, César Portilla Rosado and Manuel Calcaneo, cooperated with us in important ways, especially during the 1974 season when we spent seven months at Tancah. The major private landowner north of Tancah, Pablo Bush Romero, extended gracious Mexican hospitality to the project in several ways, as did D. Kenneth Morgan, business director of the beach resort of Acumal.

Many individuals were directly involved in the field portion of this research. Felipe Dávalos G., whose extraordinary talents and friendship I had enjoyed at Teotihuacan, was of incalculable importance to this project. He spent long hours recording murals at Tulum and Tancah under difficult conditions; the fruits of his labors form the most important illustrations in this book. Kees Grootenboer served as field draftsman during 1974, and his significant contributions included in this work speak for themselves. Eugenia Robinson, Marla Hires, and Dolores DeSilver also contributed to the recording of the murals and their architectural contexts at Tancah–Tulum; although their work is not reproduced in this publication,[1] they collected important data for what does appear.[2] Susan Rogers de Dávalos contributed in many ways to field operations at camp, as did Susanna Ekholm. I was fortunate to have had a hard-working and dedicated digging crew; Secundino Sabido, Francisco Hau, Isidro Canul, Jorge Balam, and Antonio Sierra all made long hours in the bush at Tancah archaeologically successful as well as pleasant. I am particularly indebted to Secundino Sabido, who served as my foreman. Both Anthony P. Andrews and Thomas Morgan aided field operations for short periods during 1974; Andrews's contributions can be seen in some of the plans reproduced here as well as in the report on archaeological mollusca (Appendix III). Arlen F. Chase contributed to field reconnaissance of the 1975 season both at Tancah and Xelha; his excellent plans and elevations are reproduced here as Figures 58, 59, 85, and 86.

Very special thanks is extended to Joann Andrews who is, among many other things, the gracious hostess of Quinta Mari, that oasis in Yucatan for many tired Mayanists. She also contributed directly to the project in several logistical ways, the most appreciated of which was the providing of storage and work space for the Tancah osteological studies carried out by Frank Saul in 1976. The hospitality of Will and Patty Andrews, who were living in Merida at the time of our excavation, also found grateful recipients in the members of the Tancah–Tulum Project.

We had 124 overnight guests at Tancah during our time there, a function more of our beach-front camp location than fascination with the marginal Maya culture whose ruins were located in the mosquito-infested bush behind our headquarters. Among these visitors were scholars who braved the bugs and made on-the-spot contributions to the project by sharing with us their insights on the ancient Maya in general and Tancah–Tulum in particular. These include: E. Wyllys Andrews V, George Andrews, Antonio

[1] With the exception of Eugenia Robinson's drawing illustrated in Fig. 99.

[2] Marla Hires's field work during the 1972 and 1973 seasons, carried out under the supervision of the author, resulted in detailed written descriptions, plans, and elevations of all extant mural-bearing architecture at Tancah–Tulum; her report is on file at the Program in Pre-Columbian Studies, Dumbarton Oaks.

Benavides, Elizabeth Benson, Michael Coe, Gordon Ekholm, Susanna Ekholm, Nancy Farriss, William J. Folan, Peter Furst, Paul Gendrop, Norberto González, Merle Greene Robertson, Norman Hammond, Peter Harrison, Duncan Pring, Fernando Robles, Berthold Reise, and George and Gene Stuart. Periodic visitors to our camp also included Thomas and Marion Fifield, as well as Hal and Alberta Ball, who provided repeated low-level flights in their airplanes, resulting in the aerial photographs reproduced here.

During 1976 I spent six weeks in the Archivo de Indias in Seville investigating documentary references to Tancah–Tulum, the results of which appear principally in Chapter IV. I am grateful to the Director of the Archivo, Srta. Rosario Parra, for having made my research there both productive and pleasant. In 1976–77, analyses of the Tancah ceramic and human bone material were carried out by Joseph W. Ball and Frank P. Saul. Their insights into their material are reflected in the pages that follow as well as in their final reports published here as Appendices I and II.

Several Mayanists read chapters of this book in draft form, and I have profited from their criticisms, although the responsibility for remaining shortcomings is entirely my own. Robert J. Sharer reviewed carefully the archaeological portions and made many useful suggestions for clearer presentation of the data. William R. Coe and Christopher Jones patiently helped me with final sections and plans that appear in Chapter II, despite the fact that my drawings are still light years away from their exacting standards of archaeological draftsmanship. Joseph Ball, Norman Hammond, George Kubler, Floyd Lounsbury, and Gordon R. Willey critically read chapters of this book and made many useful suggestions. A draft of Chapter V was presented to the Ethnohistory Workshop at the University of Pennsylvania in 1977, comments from which have made it a stronger argument. I am particularly grateful to William Davenport for his comments on my adaption of anthropological concepts in this chapter, and to Charles Rosenberg for his constructive criticism of my historical approach. As well as having contributed directly to the historical section in Chapter IV, Nancy M. Farriss offered constructive criticism and moral support during the seemingly endless haul of getting this book ready for publication.

Encouragement and help from the former Curator of the Pre-Columbian Collection at Dumbarton Oaks, Elizabeth P. Benson, during the inception of the project and the initial editing of the manuscript are incalculable. For final editing of the manuscript and actually getting it to the press, I owe special thanks to Elizabeth H. Boone, present Associate Curator for the Pre-Columbian Collection. The former Director of Dumbarton Oaks, William R. Tyler, and the current Director, Giles Constable, were both supportive of my work, and I am grateful to my colleagues on the Advisory Committee for Pre-Columbian Studies at Dumbarton Oaks for their approval of the project. Appreciation is also extended to the staff at Dumbarton Oaks, particularly to Anne-Louise Shaffer and to Ursula Pariser, who assisted with editing and provided many extensive photographic services. William Clough, photographer at The University Museum of the University of Pennsylvania, solved several difficult photographic problems. Credit to institutions and individuals is given in the illustration captions. Unless otherwise indicated, all photographs are by the author.

A Yucatecan merchant of Lebanese descent, José González Avilés, and his "encargado," Ricardo Sabido, had a profound influence on my life and work at Tancah and Tulum from 1972 to 1976. There are historical reasons for seeing these two remarkable individuals as heirs to the kind of people who, for so long, lived on the East Coast. Ricardo, a native of Chemax, Yucatan, descends from the inhabitants of Tzama (Tancah–Tulum), who were forcibly relocated to Chemax in 1668. He is quintessentially Maya in manner; he knows the Tancah bush and ruins like the back of his hand, and he showed me much of it. José González, known as "Don Pepe," continued his father's commercial dealing with the Cruzob Maya living at Tancah–Tulum and settled there, where he worked the land in ways his Maya hosts found very attractive. To me, Don Pepe represents those positive factors of outside influence that are periodically so important in the past of Tancah–Tulum. It is ironic that Don Pepe is Lebanese, a descendant from the Phoenicians who carried on long-distance trading throughout the ancient world of our own tradition. In a metaphorical sense, then, he is a Putun, what Eric Thompson would have called a Phoenician of the New World.

On men reprieved by its disdainful mercy, the immortal sea confers in its justice the full privilege of desired unrest. Through the perfect wisdom of its grace they are not permitted to meditate at ease upon the complicated and acrid savour of existence. They must without pause justify their life to the eternal pity that commands toil to be hard and unceasing, from sunrise to sunset, from sunset to sunrise; till the weary succession of nights and days tainted by the obstinate clamour of sages, demanding bliss and empty heaven, is redeemed at last by the vast silence of pain and labour, by the dumb fear and the dumb courage of men obscure, forgetful, and enduring.

Joseph Conrad, *The Nigger of the "Narcissus"*

CHAPTER I

A Mural Tradition in its Setting: The Case of Tancah and Tulum

THE ANCIENT MAYA of the east coast of the Yucatan Peninsula lived on the edge of their world. A look at a map (Figs. 1, 2, 3) quickly reveals that the Tancah–Tulum zone[1] (including the archaeological sites of Tancah,[2] Tulum,[3] and Xelha,[4]) located in the State of Quintana Roo of the Republic of Mexico, occupies the extreme eastern region of the Maya area and that it faces directly onto a cultural void: an open sea now called the Caribbean (Pl. 1).

The marginality of the Tancah–Tulum zone not only had cultural significance for the Maya, a significance I will try to establish in this book, but also has importance for those interested in the Maya past. Geographic isolation, combined with the relatively late date of its extant painted architecture (including murals and sculpture affixed to buildings, all of which were originally painted), as well as the historical factors that have rendered the region almost totally depopulated for centuries, have resulted in the survival of its murals in relatively good condition; such a situation provides an opportunity to study these murals as primary data.

Seriation of the murals in the Tancah–Tulum zone implied a developmental sequence that was verified by two other seriations of material culture, those of architecture and ceramics. While no single sequence provided *the* chronology of the region, it was the intermeshing of these three seriations, tied into a unifying stratigraphy, that suggested an ordering of events through time. Unfortunately, our data were limited, and it was only by keying them into sequences established elsewhere that we were able to formulate a chronology. This is particularly true of the ceramics, which Joseph W. Ball studied by fitting our Tancah collec-

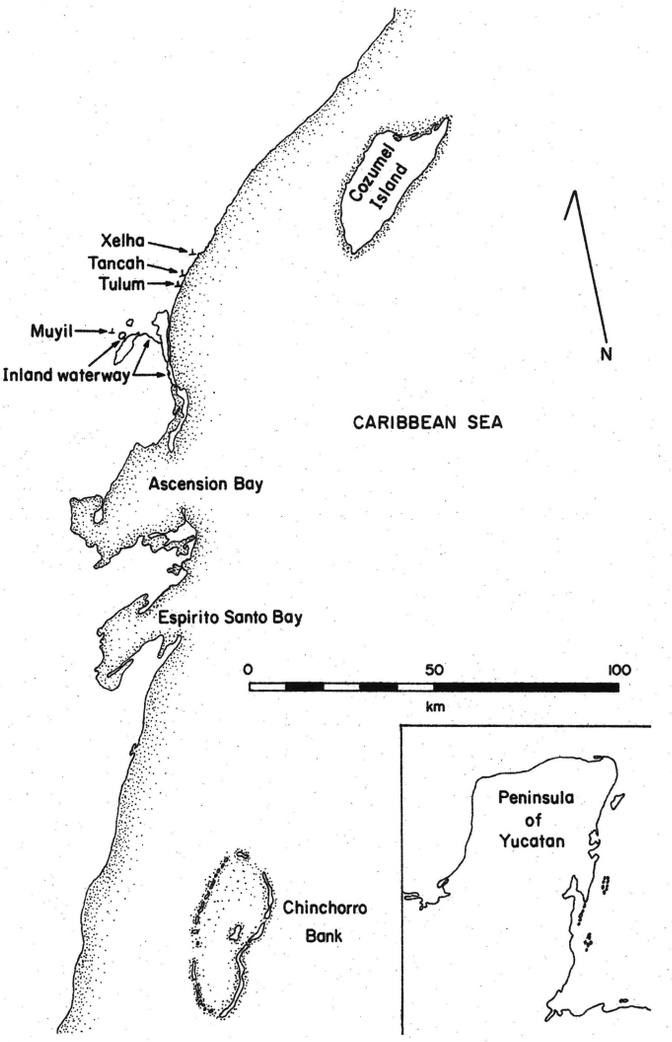


Fig. 1 Map of the east coast of Yucatan showing the Tancah–Tulum zone.

[1]The Tancah–Tulum zone is included within Latitude 20° 10.3′N to 20° 10.9′N and Longitude 88° 30.2′W to 88° 30.9′W.

[2]According to Pío Pérez (1866–77: 318), Tancah translates as "ciudadano ó el que vive en el centro ó medio del pueblo." This is still the common understanding of the term today both in Yucatan and in Quintana Roo. Lothrop (1924: 121) incorrectly translated Tancah as "in front of the city," a meaning more applicable to Tancab, which Pío Pérez (1866–77: 318) translates as "el patio, fuera de la casa, afuera de ella ó del techo." The earliest map with "Tancah" on it (spelled "Pancah") dates to 1776 (see Fig. 116) and is kept in the Archivo de Indias (Guatemala 223: 1776).

[3]Pío Pérez (1866–77: 339) gives the definition of Tulum as "cerca, muralla, castillo, trinchera, palizada." This is clearly a term used to describe the walls surrounding the site.

[4]The place name Xelha is formed of two roots:: "xel," which means "opening or crevice" ("abertura, grieta" in Pío Pérez (1866–77: 391)—and "há," water—"agua" in Pío Pérez (1866–77: 105).

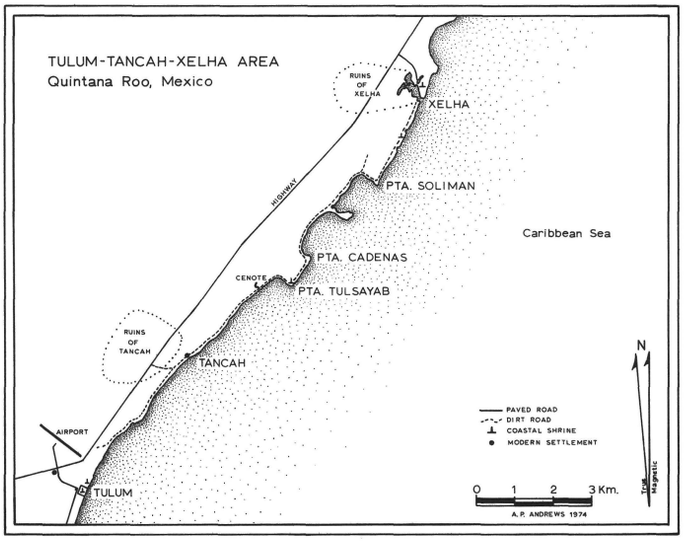


Fig. 2 Map of the Tancah–Tulum region.

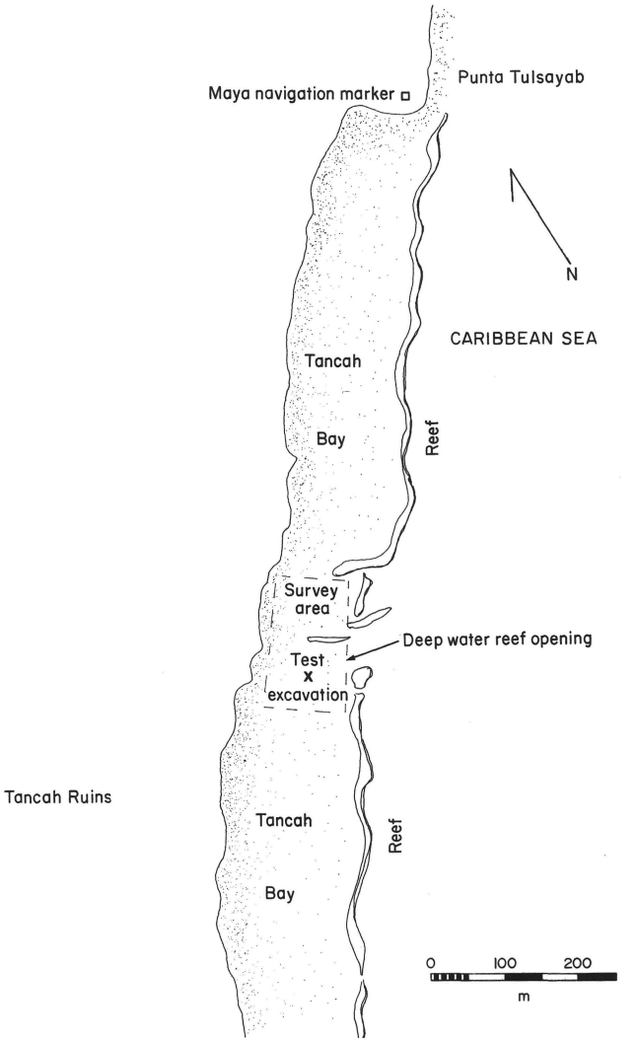


Fig. 3 Map of Tancah Bay.

tions into existing ceramic sequences in the Maya Lowlands. The excavation of a building at Tancah (Str. 44), bearing important murals on its interior walls, determined its chronological position by placing its associated ceramics, masonry, and mural style in a unifying stratigraphic context. By analogy, a chronology for "floating" murals not directly tied into stratigraphic contexts was also formed. Such chronological concerns are the subject matter of Chapters II and III. Chapter II discusses the archaeological bases for establishing a seriation of building construction at the mural-bearing Structure 44 Complex; Chapter III presents a developmental sequence of murals.

Once the chronology of extant mural painting in the Tancah–Tulum zone was established, analysis of their cultural themes could begin. The major implication of the murals is that there is a thematic relationship between the geographic setting of the region, its political-economic situation, and its iconological-symbolic structure. The Tancah–Tulum environmental setting, both natural and cultural, imposed constraints and conditions on the mural painters on a number of levels. Evidence for establishing this relationship is marshaled in Chapters IV and V, where I argue that the East Coast Maya developed perceptible behavior patterns that can be seen most clearly in the mural art of the region. The most salient theme is that of liminality, of being between two conditions but never securely in either one.

A regional backwater for much of its history, Tancah–Tulum did, nevertheless, enjoy brief periods of economic prosperity and concomitant political prestige, beginning at *ca.* A.D. 770 and again at *ca.* A.D. 1400. These somewhat arbitrary dates are indicated by the material culture, especially mural painting, we encountered in the Tancah–Tulum zone and are discussed in Chapter IV. Ethnohistoric evidence was used as well; useful, for example, were the Paxbolon papers which Scholes and Roys (1948) brought to light in their comprehensive analysis of the Conquest-period trading networks of the Yucatan Peninsula. Seaborne, long-distance trade was the major economic factor that brought periodic prosperity to the region; and pilgrimage, its religious concomitant, rendered the shrines of Xelha, Tancah, Tulum, and Cozumel as much a part of complex social interaction as it did the shrines of Mecca, Benares, Jerusalem, or, more appropriately, Teotihuacan. Although Teotihuacan was much larger and had far greater influence than did Tancah–Tulum, there is, nevertheless, a similarity between the two in that both were situated on the fringes of Mesoamerica and were, therefore, frontier settlements.

Whatever complex factors contributed to the economic and political rise and final fall of Teotihuacan, analogous ones, albeit much reduced in intensity, were likely to have been continuously operative at Tancah–Tulum: from backwater to regional florescence to backwater and regional florescence again. Perhaps the cultural mechanisms of this alternation between decay and growth are a much-reduced expression of one of the processes that influence civilizations to rise and decline. Be that as it may, the archaeologi-

cal and especially the mural painting records of Tancah–Tulum suggest at least four pendulum-like swings between two extreme conditions of material prosperity. For example, the most complex and iconographically dense murals painted during the fifteenth century, on an innovative architectural style, indicate the period of the region's greatest florescence, while murals and architecture derivative of that florescent style, painted during the Conquest Period, suggest cultural decline. This evidence for decline is supported by the ethnohistoric record. A dialectic between material prosperity and recession, between being a trade and pilgrimage center on the one hand and a neglected regional backwater on the other, is an important manifestation of the betwixt-and-between theme we find so dominant at Tancah–Tulum.

That the Tancah–Tulum zone is literally on the edge of the Maya world is also a major factor in the iconological-symbolic system of the region. Another factor is the location between two environments—on the edge of the land and of the sea. Still another factor is again a function of its position; located to the extreme east, it is one of the regions in Mesoamerica that first sees astronomical bodies with deity associations as they rise in the east. Because ethnohistoric data provide us with the ancient name of Tancah–Tulum as "Tzama" (Zamal) or "City of the Dawn,"[5] we know that the Maya saw their extreme position as literally occupying a transitional zone, at least in terms of the sun's cycle. We know, also from ethnohistoric documents, that the Maya of the Tancah–Tulum region worshiped the goddess of the moon, Ix Chel, and that her aspect as goddess of childbirth (that natural passage from unborn to life) is an obvious reference to the theme of liminality. Mural and complementary ethnohistoric evidence clearly indicates that the Tulum Maya worshiped Venus as the Morning Star and that they may have associated this astronomical phenomenon with the culture hero Quetzalcoatl–Kukulkan in his aspect as harbinger of the dawn. In Chapter V, I present further evidence, primarily from mural data, for characterizing the Tancah–Tulum zone as one having a cult dedicated to the cyclic, liminal aspects of birth and rebirth.

Another theme that is made visible through their mural painting is the positive response of the Tancah–Tulum Maya to outsiders and to outside ideas. A frontier zone is by definition peripheral, but cultural factors such as trade, conquest, pilgrimage cults, or political alliances can, nevertheless, transform a frontier zone into what Victor Turner (1973) has called "a center out there"[6] by incorporating it into interregional communication networks. When the Tancah–Tulum Maya were openly receptive to outsiders and outside ideas *and* when foreign people and ideas were active in coming to the region for whatever economic, political, and religious motives, the East Coast prospered, at least in terms of its material culture. During low ebbs of outside contact Tancah–Tulum may have been eager to receive foreign capital, political alliances, and ideas (as is indicated in ethnohistorical documents for the Early Colonial Period), but none was forthcoming. Or the reverse may have been true, and the Tancah–Tulum people may have rejected the intrusions for a variety of reasons. However, the data from our investigations indicate that, for most of its past, the region was receptive to outside influences and that the variable was the presence of those outside factors.

Periodically, Tancah–Tulum was deemed attractive for cultural intercourse and thus became incorporated into the mainstream of Mesoamerican exchange systems. Chapter IV presents evidence from the murals and from ethnohistoric documents that foreign commerce may have been succeeded by conquest, a pattern possibly prefiguring the *pochteca* model of the Late Post-Classic Period Aztec empire. At these junctures of contact with the outside, we find new ceramic wares and innovative architectural and mural painting activity. More than anything else, painted architecture was a hallmark of the transformation from backwater to "a center out there;" in fact, murals at Tancah–Tulum point to specific kinds of outside influences, suggesting areas as far away as Central Mexico as primary generating sources. This is not to say that the region came under the sway of a great empire (although there is documentary evidence that this was about to occur),[7] but it does suggest that the region participated actively in Mesoamerican trade and pilgrimage networks during definable periods in its history.

Despite the overall receptivity of the Tancah–Tulum zone to foreigners, there are exceptions cited in documents describing open hostility toward them. It seems clear, however, that such cases were responses to aggression, for not all foreigners came to the region with purposes of establishing an economic *quid pro quo*. Because settlements were located along the coast, they were vulnerable to seaborne attack. Ethnohistoric data provide incontrovertible evidence that during the Early Colonial Period the region was the victim of pirate raids, by *corsarios luteranos*, as the Spanish called them (see Chapter IV for a discussion of these raids). Archaeological data also suggest that earlier periods of piracy may have existed on the East Coast, and that Tancah and Tulum may have been adversely affected by them, as discussed in Chapter IV. It is, therefore, not surprising to encounter records from the Colonial and Modern Periods that recount open hostility toward outsiders on the part of local inhabitants of the region during the late nineteenth and early twentieth centuries, and it is not

[5] See Lothrop (1924: 65) for a discussion of ethnohistorical and etymological grounds for calling Tulum "Zama" (Zamal). Pío Pérez (1866–77: 44) translates Zamal as "el día de mañana."

[6] Turner (1973) has thus described what happens to frontier settlements that cyclically attain importance due to the attraction of a pilgrimage cult.

[7] Chapter IV includes evidence that, after commercial ties were established with Yucatan during the early years of the sixteenth century and just prior to the Conquest of Mexico, plans were underway to bring Yucatan into the Aztec empire.

unreasonable to assume that similar responses to similar threats would have taken place during the Pre-Columbian Period as well.

Both acceptance and rejection of outside influences are evident in material culture remains from Tancah–Tulum. Murals painted after *ca.* A.D. 770 exhibit stylistic and iconographic elements alien to Maya tradition on atypically Maya colonnaded buildings and are combined with distinctly Maya painting characteristics; again, *ca.* A.D. 1400, murals expressing alien cult ideas rendered in a foreign style are painted on walls of distinctly new architectural forms, also found as far away as southwestern Campeche and South–Central Mexico. That these new painted buildings are coeval with traditional Maya architectural forms such as vaulted chambers suggests an amalgamated material culture reflecting the incorporation of selected outside ideas into local building and painting customs. A genetic mixing of foreigners with local inhabitants is apparent in the remains of individuals buried in the Early Colonial chapel (Str. 71) at Tancah, where Christian and Maya burial practices were also found together. A mixing of religious customs is suggested by the unearthing of a Maya-style cache directly in front of the chapel's altar, implying that the worshipers in this Early Colonial structure practiced the rites of a syncretic Maya-Christian cult. Given the existence of documents stating that the region had no direct Spanish supervision during the Early Colonial Period, our evidence that the local inhabitants willingly accepted certain aspects of Christianity without coercion is another example of the receptivity of the Tancah Maya to foreign ideas, a receptivity evident at periodic intervals in its material culture. Further discussion of these observations appears in Chapter IV.

LAND APART

That the Tancah–Tulum muralists reveal in their art certain environmental constraints can only be appreciated by an understanding of particular natural features that characterize this coastal region. The first of these is the distinctive nature of the land itself; the second is the special relationship between land and sea; the third is how groundwater is connected, ultimately, with the sea. These natural phenomena have been recently studied objectively by several teams of geologists working on the east coast of the peninsula.[8] One of these geologists, John Gifford, was a member of our underwater survey team[9] who, using data from the Tancah–Tulum region, confirmed earlier conclusions of Ward and Wilson (Weidie 1974) about the geological formation of the east coast of the peninsula. Summarized below is the gist of Gifford's report (n.d.) on the marine geology of Tancah–Tulum, including observations on natural processes relevant to our consideration of the relationship between physical environment and culture in our region of study.

The land formation upon which the archaeological sites of Tancah, Tulum, and Xelha were built consists of the Tertiary marine limestones that also make up the rest of the peninsula. Like the third of the peninsula north of the Sierrita de Ticul, the East Coast has a maximum elevation of less than four meters and has two distinctive surface features caused by weathering of the limestone bedrock: a discontinuous soil cover and a highly karstified landscape of minimal surface drainage (Gifford n.d.: 2). As geologically similar as the Tancah–Tulum zone is to the rest of the upper third of the Yucatan Peninsula, it is geomorphologically set off by a northern extension of the Río Hondo fault zone that parallels the East Coast along its northeast-southwest orientation. While the Río Hondo fault does not change the geological composition of the bedrock, it does set the Tancah–Tulum region apart from the rest of the peninsula by a rift, the clearest physical manifestation of which can be seen in the lakes south of Tulum near Muyil (Fig. 1) (Gifford n.d.: 2; Weidie 1974: Fig. 1).

The coastal environment of the Tancah–Tulum zone consists of white sandy beaches fifteen to sixty meters wide, interspersed with rocky headlands, promontories and narrow rock-ringed inlets of various sizes (Figs. 4, 5). Formation of this coastline bedrock, the highest point of which supports the archaeological sites in this study, was made possible by periodic changes in sea level.[10] It is ironic that the very formation of the land on which the East Coast Maya built their settlements should have had a geological history of cyclic inundations by the sea. Of course, all coastlines share this characteristic to varying degrees, but what is distinctive about the geological past of the Quintana Roo coast is that the sea has always been the active element, not the land.

Some geological phenomena were reflected in the Maya belief system, as for example the hydrogeology of the East Coast, which was explained within a larger scenario of cosmic events that affected everyday life. A notable characteristic of the six kilometers of beach fronting the sites of Tancah and Tulum are the many cold freshwater springs that percolate into the warm Caribbean just off shore. This

[8] The most comprehensive published report of this research is A. E. Weidie (1974).

[9] In 1975, a team of specialists directed by Nancy M. Farriss and myself, composed of Harold Edgerton, John Gifford and Pilar Luna, carried out underwater surveys and test excavations at Xelha, Tancah, and Chunyaxche with a view to uncovering evidence for long-distance maritime trade of the Maya. The results of these preliminary investigations are reported in Farriss and Miller (1977).

[10] Ward and Wilson (Weidie 1974: 102–104) present a summary of the geological processes resulting in the present appearance of the east coast of Yucatan. They characterize the coastland as a result of three major cyclic sea-level changes vis-à-vis the land, which they assume "has been tectonically stable since the last interglacial period . . .": 1) Sangamon sea-level rise (25 feet [7.6 meters] above present level), 2) Wisconsin sea-level drop (up to 300 feet [92 meters] below today's level), and 3) Post-glacial transgression gradual rise forming "erosional terraces" and "deposition of Holocene carbonate sediments" at 100–120-foot (30–37 meter) and 12–15-foot (3.7–4.5 meter) levels below current elevation achieved by *ca.* 5000 years ago.

Fig. 4 Punta Tulsayab as seen in the distance from Tulum, enclosing Tancah Bay. Photo taken in 1973.

phenomenon is a result of the water table's being only a few meters above mean sea level, causing freshwater discharge into the shallow offshore sea water, as at Tancah, or just inside the present coastline, as at Xelha, a short distance to the north (Gifford n.d.: 2). There is linguistic evidence to suggest that the ancient Maya understood something of the hydrologic processes that cause these occurrences, and in fact, such an assumption has already been made by Back and Hanshaw (Weidie 1974: 47) in their studies of the northern Yucatan Peninsula:

> The Mayans had at least a rudimentary understanding of the hydrologic cycle as indicated by the choice of the name "Muna" for a town located at the base of the Sierrita de Ticul, a set of low linear hills which trend northwest. The Mayan word "muna" means "place in which the water starts" . . . this would have been a fairly advanced hydrologic concept if the Mayans realized that the Sierrita was a possible recharge area for water in the limestone aquifer of the Peninsula.

A spring just north of Tancah (Fig. 2) bears the Maya name Tulsayab, which translates as "where the fresh waters go out."[11] Taking together the implications of the Maya name Muna at the base of the 50-meter-high "recharge area for water into the limestone aquifer"[12] (Sierrita de Ticul) together with Tulsayab, where a prominent spring discharges into the shallow sea fronting Tancah, it would seem that the Maya understood that fresh waters flow from land, on the west, to sea, on the east. We shall see, in Chapter V, that the Maya perception of this process is demonstrated by murals and cave carvings at Tancah and Tulum. Further, the visual evidence in archaeological contexts also suggests that the Maya conceptualized the subsurface flow of water from land to sea as replicating an aspect of the passage from death (symbolized by being underground in the west) to rebirth (symbolized by coming to the surface in the east).[13]

Another *ojo de agua*, located one kilometer from the

[11] The translation is local East Coast Maya (Cruzob); the *Tulumeños* say the place name has been known as long as they can remember.

[12] I have not been able to verify this translation in a Maya dictionary or with informants.

[13] Freshwater springs discharging directly into the sea or into large karst formations directly connected to the sea (such as that at Xelha) are known today as *ojos de agua*. These occur on the north and west coasts of the peninsula as well and, therefore, discharge from a south-to-north and from an east-to-west direction. What is significant, however, is that the west-to-east directional discharge of the Tancah–Tulum region was seized upon by the East Coast Maya as replicating cosmic cycles of death and rebirth.

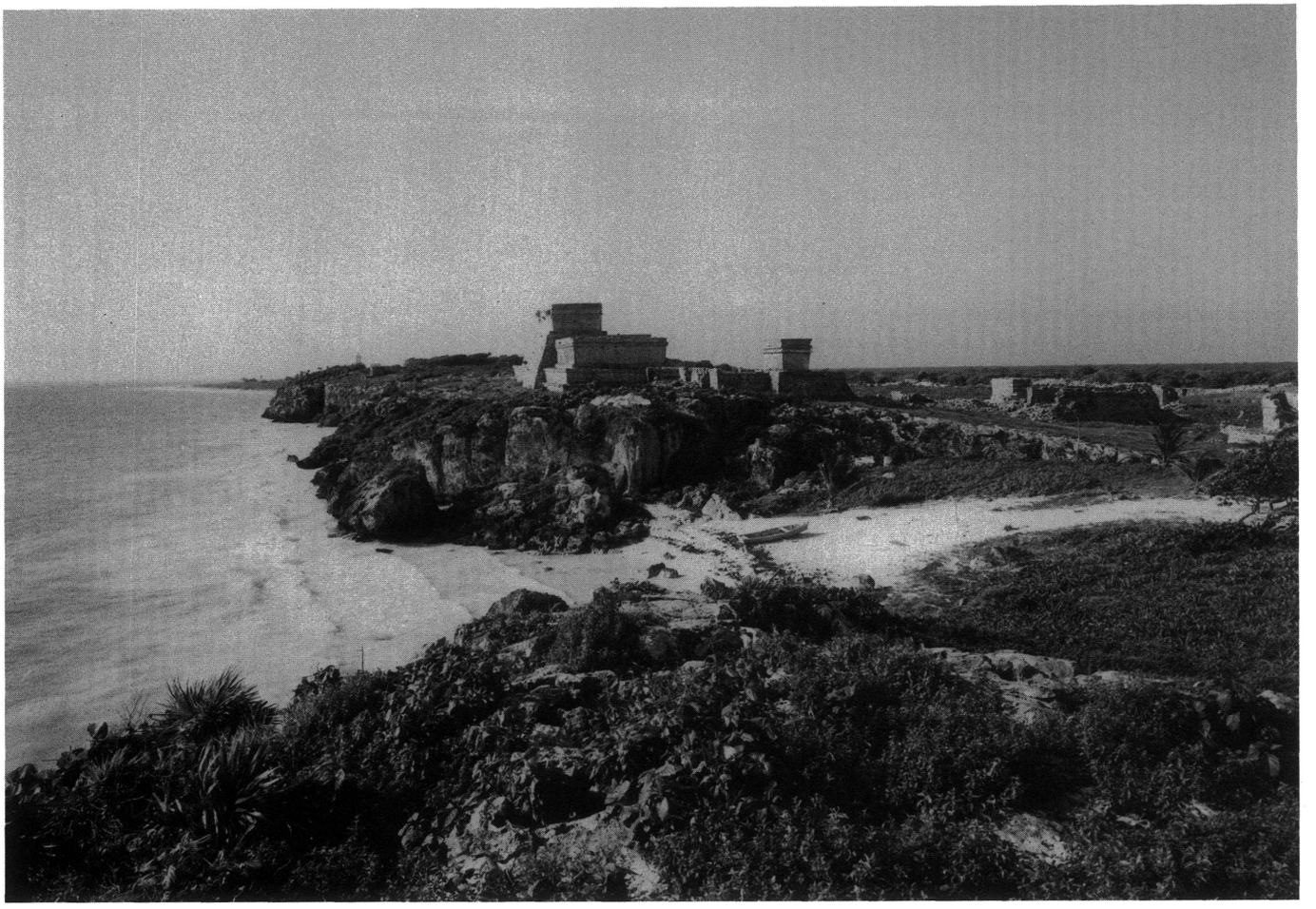


Fig. 5 Small sandy beach at Tulum, view towards the south. Photo taken in 1972.

shoreline fronting Tancah, has caused, through the effect of coral-inhibiting fresh water, a natural opening twenty meters wide in the barrier reef, probably for as long as man has been living in the region. So constant is this flow of fresh water forming the passage that the coast's frequent hurricanes have not altered it.[14] Today, this passage is the only safe entrance into Tancah Bay for ships of any draft; even small boats cannot pass over the reef elsewhere during a heavy sea. Although Pre-Columbian cargo canoes coming to Tancah–Tulum from the south could have approached the zone from inside the barrier reef, those approaching from the north would necessarily have come from outside it, because of the juncture of Punta Tulsayab with the barrier reef forming the beginning of Tancah Bay (Figs. 3, 4). The existence of putative circumpeninsular sea trade networks discussed in Chapter IV, of which this natural reef passage would be an important link, is suggested by ethnohistorical accounts and by evidence of trade wares and mural painting styles found in the region.

[14]The former owner of the plantation and ranch on the shore opposite this passage informs me that since 1925 the position of the passage has remained unchanged despite several severe tropical storms (José González Avilés, personal communication, 1974).

WATERS BETWEEN

There are two surfs fronting the Tancah–Tulum zone, one at three-quarters of a kilometer from the shore and one at the shoreline itself. The sea water between the reef and shore is crystal clear, and, because it has a maximum depth of only ten meters, edible marine creatures can be seen readily from the surface of the water; lobsters, conch, and many species of tropical reef fish abound. All these sources of marine protein could have been harvested by the Maya using simple fishing techniques such as free-diving with spear. That the Tancah Maya consumed large quantities of marine protein from Early Classic to Early Colonial times is demonstrated by the evidence of shellfish remains, fish bones and fragments of turtle carapace in virtually all our excavation levels. The largely sandy coastline of Tancah Bay is, like similar bays to the north and south, a major egg depository for the great marine green turtle and could thus have provided a periodic source of protein in the form of turtle eggs and the female turtle itself. A small bay north of Xelha was so noted for its egg-laying turtles that it bears the Maya name Acomal, or "place of the turtle." A censer in the form of a marine turtle (Fig. 6), found on the surface directly in front of Tancah Structure 44, suggests that the

cyclically appearing marine turtle, regularly emerging from the sea to lay its eggs, may have been incorporated by the Maya into some kind of cult, perhaps embodying the theme of life emerging from the eastern sea.

The zone of relatively calm, shallow water between the two surfs fronting Tancah is abruptly terminated on its seaward side by a barrier reef that borders the depths of the Caribbean's Yucatan Channel and is buffeted by the prevailing winds of this weather coast. The shallow waters between the barrier reef and the shore line represent a transitional zone between a seemingly bottomless, blue sea on one side and land on the other—a natural liminal zone between land and sea (Fig. 7).

Even the coastland has a transitional zone. Immediately behind the sandy beach, the land turns into a periodically inundated *bajo* area, 50–200 meters in width; *tierra firme* rises from it to the west in the form of a "lithified, fossil reef-dune ridge" (Gifford n.d.: 3) on which the Maya usually constructed their buildings, as at Tancah (Fig. 8). Tulum and other Late Post-Classic sites along the coast are exceptions to this earlier settlement pattern found all along the East Coast, in that they are built upon rocky headlands facing directly onto the reef-protected waters of Tancah Bay (Figs. 5, 9).

The shallow-water liminal zone between barrier reef and coast was not the only source of protein, for the *tierra firme*, where Tancah was built, produced abundant sources of food as a result of a different kind of water. Because of a system of springs and sink holes, or *cenotes*, the 300 head of cattle (kept from the 1940s until recently within a 30-hectare grazing area) could range freely at Tancah and drink from the ready supply of potable water. I know of six springs and eight *cenotes* at which cattle could safely water; such well-watered land meant that productive agriculture could be carried out. In fact, traces of intensive Maya agriculture can be seen in the extreme western sector of the site, where fields defined by low, 100-meter-square, dry-laid stone walls may have been areas where the Maya heaped organic compost to grow crops. At the corners of these wall-lined fields, underground storage chambers, or *chultunes*, were found, suggesting temporary holding devices for agricultural produce.[15] The availability of fresh water is clearly one reason why Tancah is now known as an excellent hunting zone, attracting game such as deer, wild turkey, agouti, monkey, and raccoon. Certainly the combination of high ground, fresh water, and plentiful game is a major reason for the long, uninterrupted occupation of Tancah from the Pre-Classic to the Early Colonial Period. While game would have declined rapidly with increasing population (as is currently happening with the recent tour-

Fig. 6 Zoomorphic censer of a sea turtle found on the surface of the Tancah Str. 44 Complex.

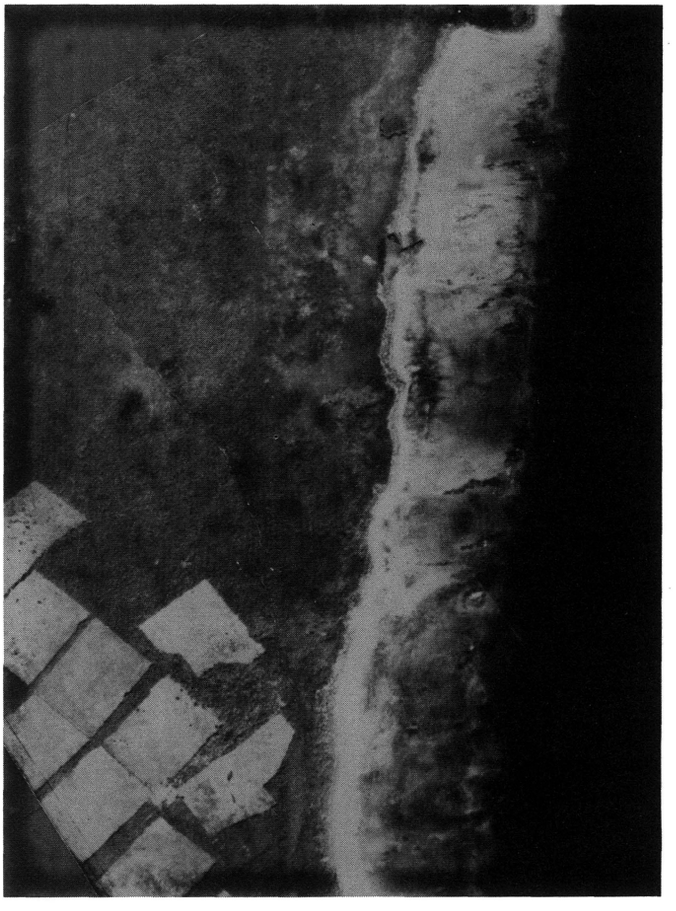


Fig. 7 Aerofoto de Mexico air photo of Tancah Bay taken in the 1940s showing a natural liminal zone between land and open sea (the light vertical band), the waters between barrier reef and shore line. The rectangular patches are cleared grazing land for cattle.

[15] Similar stone walls, also indicating possible intensive agriculture, are reported from Cozumel (David Friedel, personal communication, 1974), and may have been a solution to growing cultigens in an environment where the topsoil is one of the thinnest in the entire peninsula (averaging 50 centimeters).

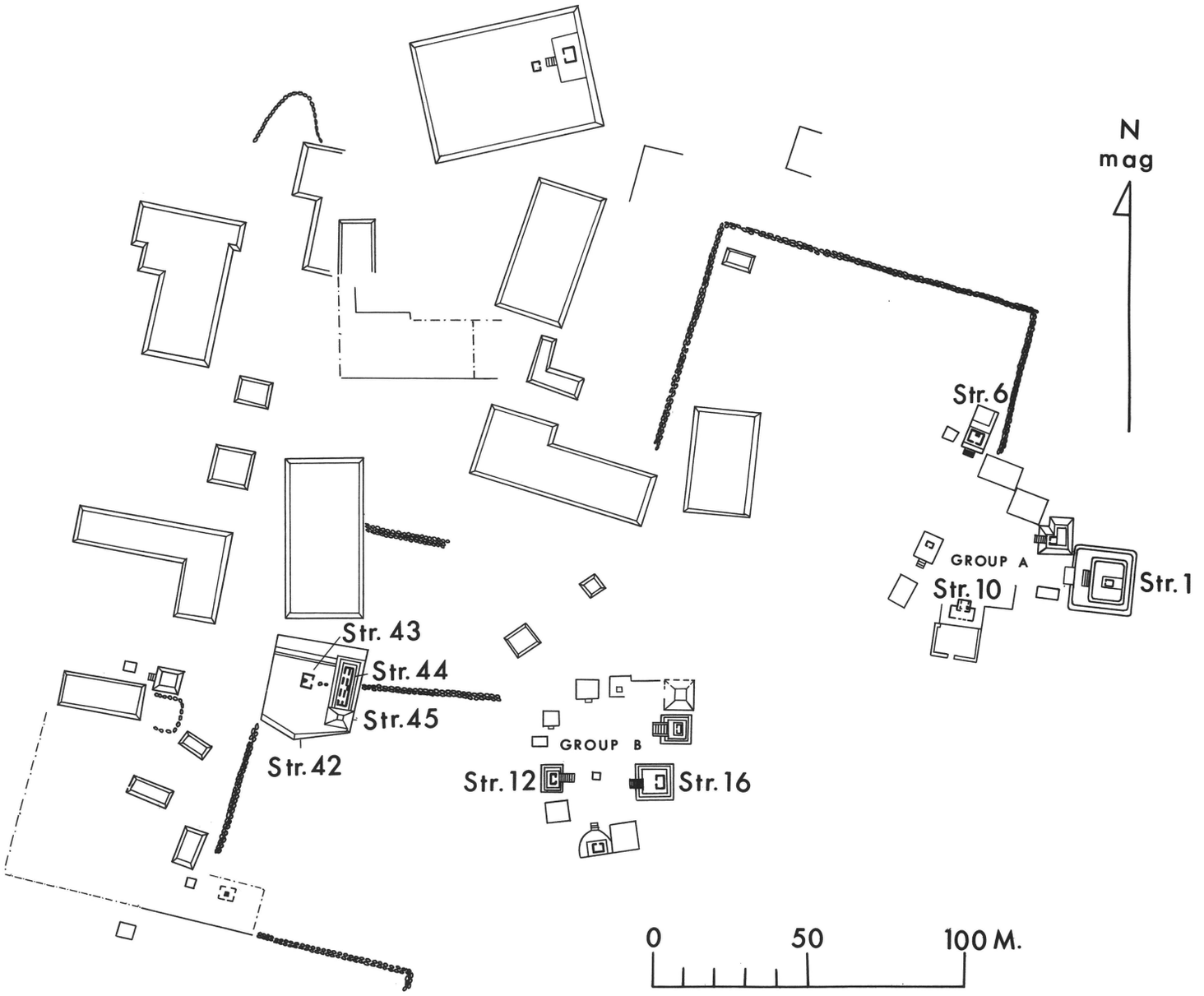


Fig. 8 Plan of Tancah. Labeled structures are discussed in the text.

ist developments along the East Coast), the reef-protected waters fronting Tancah would have provided a fairly constant supply of protein.

Although the liminal zone between shore and barrier reef was beneficial in producing marine protein, it was also a hostile environment for the Tancah Maya, where man was not in his element. This passive hostility of an underwater world was occasionally transformed into an actively terrifying one, when the waters between reef and shore would momentarily recede to join the deep sea outside the reef, only to return in a wall of watery destruction driven by tremendous winds. Although there are no long-term data on the number and intensity of violent tropical storms that have passed through or near Tancah–Tulum, at least twelve hurricanes are known to have crossed northeastern Yucatan since records have been kept during this century (Tannehill 1950; Ward and Wilson *in* Weidie 1974: 101). In fact, the region is on a principal hurricane track (Ward and Wilson *in* Weidie 1974: 101; Dunn and Miller *in* Weidie 1974: 257–258). Because tropical cyclones typically occur during the end of the rainy season, they were probably classified by the Maya as fairly predictable malevolent cyclic happenings[16] and, therefore, represented a

[16]The coastal dwellers today are well aware of the signs of an approaching tropical cyclone.

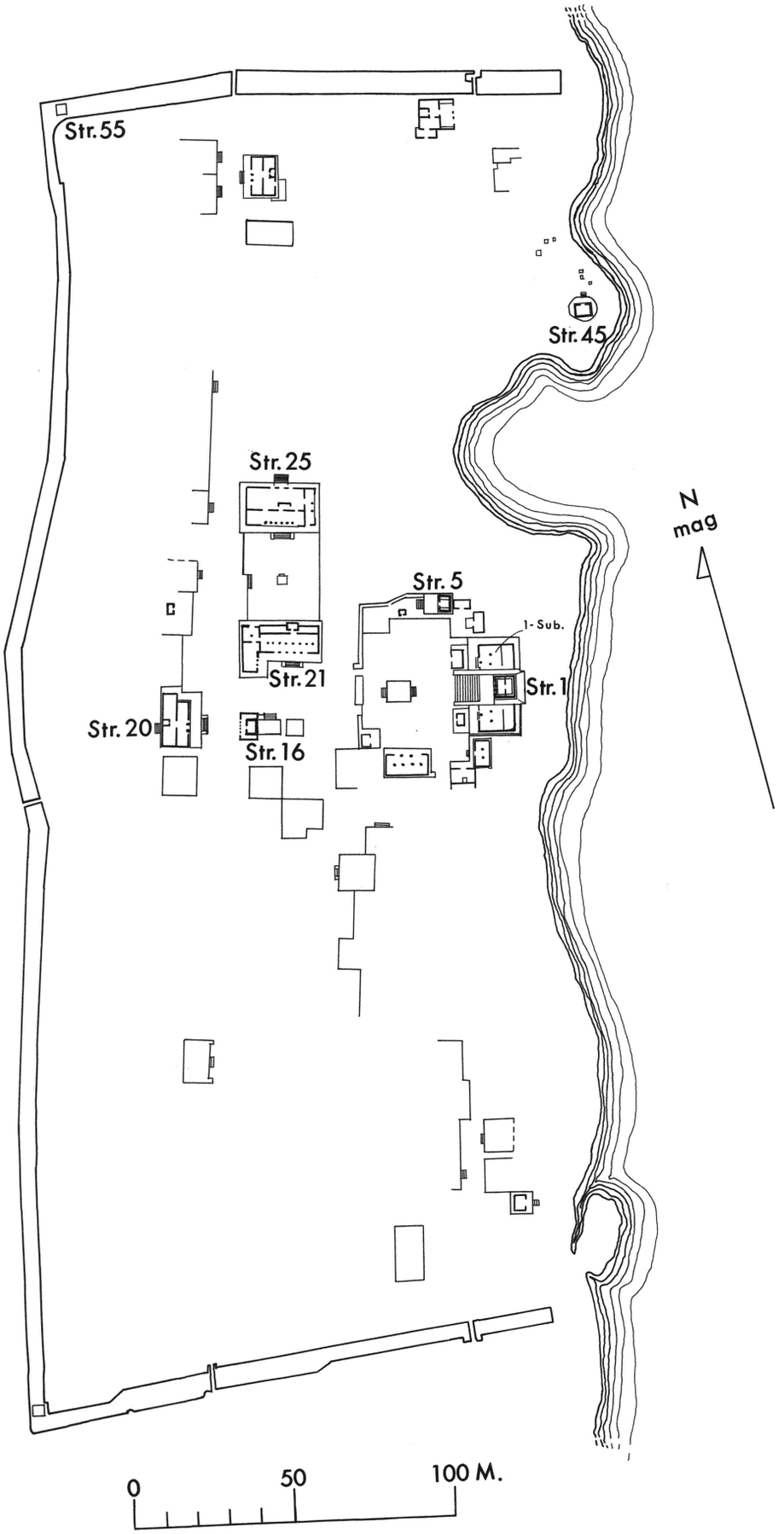


Fig. 9 Plan of Tulum.
Labeled structures are discussed in the text.

major negative aspect of the liminal zone between barrier reef and shore.

Sources of fresh water, too, had their good and bad sides. By providing water for drinking and irrigation as well as for game, *ojos de agua* and *cenotes* were obviously beneficial. But the Tancah–Tulum region has material evidence to suggest that certain *cenotes* are also associated with the underworld as conceived by the ancient Maya. In fact, selected *cenotes* were seen by the Maya as mouths of Hell and, as such, represented a threshold zone between the living and the dead. The dim light of special *cenotes*, below the surface of the ground and partially open to the sky, also contributes to the liminal associations. Such a zone is sacred and taboo, a place one enters at one's peril. There is evidence from what we know of Maya belief systems that sources of water in sacred *cenote* caves were thought to be inhabited by malevolent underworld creatures. To a certain degree, the belief still survives in folk religion among the contemporary Maya, so that the local Maya from Tulum Pueblo expressed disbelief and horror on learning of our underwater investigations inside the Tancah Cenote Cave during 1974.[17] For them, it was as if we had penetrated the mouth of Hell itself.

Between deep sea and dry land or between underground and surface, both reef-protected bays and sacred *cenotes* are liminal zones which became for the Tancah–Tulum Maya natural metaphors for the tenuous position in which they found themselves on the fringes of the Maya world. There was, in practical terms, a double-edged-sword aspect to participation in seaborne trade networks, just as there was, in metaphorical terms, to the waters between reef and shore or between underground and surface: outside trade and ideas were important cultural factors which periodically shunted the position of Tancah–Tulum back and forth from the extremes of flourishing trade nexus to provincial outpost. On the one hand, there were the obvious benefits of food and trade goods, but, on the other, there was destruction and death. Coastal settlements were occasionally menaced by seaborne pirates and savagely attacked by the Caribbean's seasonal storms, causing their inhabitants to flee inland to safety.

PREVIOUS RESEARCH

Part of the setting for this explanation of the Tancah–Tulum mural tradition is the influence of previous research on the murals. Although most earlier studies were limited to simple and incomplete description, without them this work would not have been possible. It is, therefore, important to summarize the past investigations on East Coast sites that are relevant to this book.

As is the case for many archaeological sites in Yucatan, exploration of the Tancah–Tulum region began in 1841 with the visit of Stephens and Catherwood (Stephens 1843). His motive for going to Tulum being only to see the site, Stephens was the first to visit the region in the spirit of nineteenth century exploration.[18] He was also the first to write about Tulum and to record something of its murals. In terms of this present study, the most important structure Stephens discovered at Tulum was the one he labeled the "Temple of the Frescoes" (later designated Str. 16 by the Carnegie Institution) because of the murals he found vividly preserved on its walls. It is particularly unfortunate, however, that he did not copy the faded exterior painting of Structure 16, which the Tulum Maya had rendered in a color scheme complementary to its more protected interior paintings. The Carnegie Institution expeditions of the early part of this century also found these murals in good condition, but they, too, did not record them. Plates 31–33 illustrate the only surviving fragment of these murals, giving an idea of how they must have appeared in Stephens's day.

The three expeditions of the Carnegie Institution of Washington to the east coast of Yucatan, under the direction of Sylvanus Morley, mark the most significant prior research in the zone for the purposes of our study. Published in 1924, *Tulum: An Archaeological Study of the East Coast of Yucatan* by Samuel K. Lothrop contains a summary recording by staff artist John Held of several murals and a thorough descriptive record of standing architectural monuments, several of them containing mural paintings analyzed in this book. The Carnegie survey of archaeological sites along the East Coast and on Cozumel Island resulted in the classification of building types unique to the East Coast, the most important for study being what Lothrop called "the sanctuary" and what I call the 2-in-1 or 3-in-1 structure. Figures 72, 73, 78, and 85 show examples of this building type, which does not occur elsewhere on the peninsula except at Dzibilchaltun and in the southwestern corner, at Palenque, Chiapas; the type is analyzed iconologically in Chapter V. Lothrop tried to order chronologically the architecture he found and, in basic terms, his seriation still stands today. He suggested that "the buildings at Tancah and Xelha are older than those at Tulum, because they lack the distinctly Mexican features, which were introduced during the next period . . ." (Lothrop 1924: 169). What Lothrop called "Mexican" or Toltec features[19] are here associated with what I refer to in Chapter IV as the Second Entrada, *ca.* A.D. 1400. Lothrop neither explored the chronological implications of the murals or of the ceramics he found, nor did he try to integrate his architectural chronology with that of the murals and ceramics—these being major goals of this present study.

[17] With the authorization of the director of the Centro Regional del Sureste, I.N.A.H., Arql. Norberto González G., permission was granted for Mexican diver Genaro Hurtado and myself to dive 100 feet (30 meters) into the Tancah Cenote Cave to search for evidence of foreign influence in the Tancah–Tulum zone (see Robina [1956: 119–120, lám. x] for a description of the Tancah Cenote Cave).

[18] Juan Pío Pérez (1881) reports that Juan José Galvez visited Tancah and Tulum in the early nineteenth century.

[19] Lothrop (1924: 169) assigned a 1201–1458 time span for his "Toltec Period." Some of his listed traits—such as the "mounds with colonnades" and "chacmool" sculptures—are, in fact, Terminal Classic/Early Post-Classic innovations.

As an offshoot of the Carnegie work, Thomas Gann, that tireless British explorer who had recorded the Santa Rita murals (Gann 1900) located along the coast to the south, approached the Tancah–Tulum zone from British Honduras. Along with Sylvanus Morley and George Held, he explored Tulum and recorded some of its murals. Their visit to Tulum resulted in a popular publication (Gann 1924) that includes drawings of details from the murals in Structures 5 and 16.

The most important groundwork for the analysis of the East Coast murals was laid down by the work of the Expedición Científica Mexicana that visited the area from 1937 to 1940. A major contribution of these investigations was Alberto Escalona Ramos's (1940, 1946) survey of Quintana Roo, identifying many previously unknown sites—many of them with evidence of mural painting—and making clear that this "forgotten quarter" of Mexico is indeed an archaeologically rich part of the Yucatan Peninsula. Between 1938 and 1940, expedition member Miguel Angel Fernández spent four seasons at Tulum dedicated principally to the restoration of mural-bearing architecture, as well as the restoration and publication of the mural paintings themselves. Fernández isolated three distinct painting levels, representing three different styles, in the passageway under the stairs of Tulum Structure 1, associated with a building I call Structure 1-Sub. He spent most of his time restoring Tulum Structures 5 and 16 and repainting their murals (Fernández 1945; Fernández *et al.* 1945). Although it is difficult to distinguish between Fernández's restoration painting and the originial Maya parts, it is probable that, were it not for Fernández's efforts, these murals might have been completely lost to the elements. Fernández was also responsible for exposing the important innermost painting of Tancah Structure 12 (Pls. 6, 7) (José González Avilés, personal communication, 1975), although he made no published reference to this painting.

Archaeologically, the work most relevant to our study was carried out by William T. Sanders (1954, 1955a, 1955b, 1960), whose major contribution was the establishment of a ceramic sequence for the Tancah–Tulum zone on the basis of his settlement-pattern studies there in 1955. As a result of this work, the major chronological separation of the Late Post-Classic from the Early Post-Classic was established on the basis of the introduction of a totally new ceramic complex, which he attributes to the arrival of a new group of people. Our subsequent excavations at Tancah were able to corroborate this major chronological division, to support Sanders's implication of the arrival of a new cultural complex, and to add architectural and mural data to define further this intrusion. We were also able to build upon Sanders's preliminary sequence to form a more complete one for the Tancah–Tulum zone and relate the architectural and mural sequences to that of ceramics (Chapters II and III).

Several recent works on East Coast archaeology have additionally provided basic background information for this report. The work of E. Wyllys Andrews IV in 1963 at Cancun produced data bearing on the Late Pre-Classic Period of the East Coast ceramic sequence and established the dependence of that period on marine fauna for subsistence (Andrews IV 1969; Andrews IV *et al.* 1974). Andrews IV and Andrews's (1975) important monograph on Xcaret and related sites is the source of much comparative data for any study of East Coast archaeology, including a history of the region and past archaeological research, as well as invaluable site and map indexes for the East Coast. Although the data of the Cozumel Archaeological Project are only partially available as of this writing, the hypotheses presented by members of the project, in the form of preliminary reports and papers on the subject of long-distance trade, are relevant to a consideration of the repeated periods of exposure to outside influences in the Tancah–Tulum zone discussed in Chapter IV. Two major points in Sabloff and Rathje's work (summarized in Sabloff and Rathje 1975) should especially be mentioned because they relate directly to the themes discussed in this work: one involves chronology and the other concerns the nature of Maya religion.

First, I see a basic chronological problem in relating the East Coast region (of which Cozumel is a part) to Mayapan as Sabloff and Rathje (1975) have done. The literature has, since before the Carnegie work at Tulum (Lothrop 1924) and even after the work at Mayapan itself (Pollock *et al.* 1962), lumped Mayapan and Tulum into the same chronological period[20] (i.e., "Decadent"), which is in large part defined by data of the Carnegie Mayapan project, primarily because there are superficial similarities in the architecture of both sites.[21] But, while Mayapan seems to have lasted *ca.* 1250–1440 (Pollock *et al.* 1962), our mural and architectural data suggest that Tulum flourished after 1400; most of the standing architecture of Tulum dates after the fall of Mayapan, notwithstanding the Mayapan-like features that do exist at Tulum.[22] Furthermore, while Mayapan Red overlaps with Tulum Red, the wares are not the same; Ball and Pring (personal communication, 1977), as well as David M. Pendergast (personal communication, 1977), suggest that Tulum Red may have had a longer duration, lasting as late as the seventeenth century (see Miller 1977a).

Second, for Tancah–Tulum, there are no material cultural or ethnohistorical data to suggest that there was "a

[20] See, for example, Andrews IV (1943), Scholes and Roys (1948), Brainerd (1958), Sabloff and Rathje (1975).

[21] An example of the almost axiomatic linking of Tulum and Mayapan is provided by this sentence: "Very close elite ties can be seen among the sites of Mayapan, Tulum, and San Gervasio on Cozumel in terms of pottery, architecture, artifacts, and the use of space" (Sabloff and Rathje 1975: 26). There are indeed taxonomic resemblances, but to go from there to "close elite ties," which imply contemporaneity, is a very different matter.

[22] Late Post-Classic Tulum would be included within the latter part of the Decadent Period of northern Yucatan, A.D. 1200–1520 (Andrews IV 1965).

growing secularization of the Maya polity" (Sabloff and Rathje 1975: 24). On the East Coast, different kinds of mercantile and military activity did seem to come and go at detectable periods, but such events also brought complex religious iconographies involved with foreign and local cults, which effectively enmeshed every other facet of Maya life. Even during the Colonial Period, the Maya did not separate religious and secular life in the modern Western sense. Indeed, the changes seen in architectural techniques, burial patterns, and other forms of material culture—not the least of which is mural painting—during the Terminal Classic and Post-Classic on the East Coast and elsewhere throughout the Maya lowlands do not need the secularization-of-society model to explain them.

CHAPTER II

Chronological Implications of Architecture and Ceramics at Tancah and Tulum

DURING 1974, small scale stratigraphic excavations were carried out in and around Tancah Structure 44, with the primary purpose of uncovering evidence to indicate when it was built. Data from platform architecture and ceramics were to provide us with an indication of the earliest possible period for the murals we discovered inside Structure 44, during 1973. It was hoped that the murals of Structure 44 would serve as a chronological coat hook, on which to hang the dates of stylistically determined earlier and later murals in our region. The goal was to establish independent mural, architectural, and ceramic sequences, which, after separate analyses, could be interrelated to form the chronology thought to be necessary before interpretations of mural functions and meaning within Tancah–Tulum culture could be attempted. Unfortunately, we fell considerably short of this ideal because of a number of limiting factors often cited in ambitious programs of any endeavor of this sort: insufficient funds, staff, and time. But most of all, we did not foresee the complexity of interrelating chronologically these three manifestations of material culture. Nevertheless, we had limited success in gathering independent architectural and ceramic evidence to treat a stylistic seriation of the murals, owing largely to the fortunate discovery in the Structure 44 Complex of ten burials from Early Classic to Early Post-Classic times, associated with platform architecture; one of these platforms was directly associated with mural-bearing Structure 44 itself. Also, ceramic evaluations, carried out by Joseph W. Ball (Appendix I), enabled me to make the most of our small collection of roughly 7,600 sherds and thirteen whole vessels removed from burial and cache contexts. Were it not for Ball's (1977, 1978, 1979) wide familiarity with the ceramic sequences elsewhere in the peninsula, the collection, lacking stratified midden contexts, would have been much too small for independent chronological evaluations.

During the course of our respective analyses, Ball and I were acutely aware of the limitations of our data and that we were each dealing with a small part of a much greater whole. We never assumed that one material class could give us an account of the local culture-history, a conventional description for the time-space systematics of the Tancah-Tulum region. It seemed obvious to us that each material class changes at different rates and, further, that each relates to or "reflects" different aspects of any past, and certainly this is the case here.

In this chapter and in Chapter IV, I have tried to take into account some of Ball's findings based on his evaluation of our small ceramic collection as it is related to better known ceramic situations in the Maya area and to place it in historical perspective with architecture and its mural painting. The reader will see differences in our respective culture-historical account of the Tancah–Tulum region. Specifically, we differ as to the dating of Tancah Structure 44 in absolute time, although seriationally we are not in disagreement. In Appendix I, Ball places it as early as the eleventh century, based primarily on his evaluation of our limited ceramic collections. In this chapter and in Chapter IV, I argue for a mid-fourteenth century date, based primarily on architectural and mural seriations.

The choice of Structure 44 for intensive excavation was based not only on its small and therefore manageable size, but also on its association with a supporting platform (Str. 42) which seemed likely to contain earlier platforms with caches or burials in sealed contexts. Sanders (1960) had already produced evidence of a long occupational history at Tancah, and it seemed logical that this relatively high, well-drained spot in the site would have been occupied for as long as Tancah had been a functioning population unit. As it turned out, this was a correct assumption. We found incontrovertible evidence that the Structure 44 Complex had been continuously inhabited from the Late Pre-Classic to the Early Colonial Period. Subsequent excavations in and around an Early Colonial chapel at Tancah (Str. 71) produced further evidence of Early Colonial habitation there; as we later learned from documents now in the Archivo de Indias, Seville, the site was not abandoned until 1668. Another major reason for choosing Structure 44 for investigation was the intriguing fact that its murals appeared to be similar in style and iconography to the Codex Paris and particularly close to the Codex Madrid. In addition to the already-stated primary goal of dating these and the other murals from the Tancah–Tulum region by stylistic comparison, it was also thought that this might be an opportunity to propose a possible date for the

Codex Madrid itself. Of course, in so doing, all the problems of relationships between models and copies—whether the codex existed before the murals or vice versa[1]—and the more fundamental problem of the relationship between the date of the building and its murals, would all have to be resolved separately. At the very least, a solid date for Structure 44 would give a firm earliest possible date from which to make chronological assessments of murals painted on its walls and on other buildings in the region.

The evidence presented below establishes a Middle Post-Classic date for Tancah Structure 44; the mural evidence presented in Chapter III narrows that down to *ca.* A.D. 1350. The chronology indicated in Table I (see page 46) uses absolute dates in accordance with the currently accepted 11.16 correlation of Maya and Christian calendars, as well as modified period terms used for the Southern Maya Lowlands. Although it could be argued that a more appropriate terminology would have been that of the Northern Maya Lowlands, there is evidence that the Tancah–Tulum region was influenced by several different regions through time, despite its geographic proximity to the northern plains. The Tancah–Tulum chronology is a distinct regional one, changing at different rates and having different durations than either the chronologies of the Southern or the Northern Lowland Maya areas. The choice of terminology in this study is determined more by preference than anything else, and the terms are, of course, arbitrary temporal designations.

[1]Unlike wall painting, pictorial manuscripts are portable and can be kept for long periods of time. Spatial and temporal designations of wall paintings on the basis of pictorial manuscripts, or vice versa, are, therefore, unsatisfactory data for the synchronic spread of a style and its temporal duration in any one region. Nevertheless, the stylistic affinity of the Codex Madrid and the Str. 44 murals is significant, in that the codex tradition seems to have been transposed onto the walls of the structure. It is probable that there were many Maya pictorial manuscripts in the style of the Codex Madrid extant when Str. 44 was built and that one or several such manuscripts influenced the style of the Str. 44 murals.

THE EXCAVATIONS

The major portion of the 1974 field season was devoted to the excavation of the Structure 44 Complex at Tancah (Fig. 10). The numbering of structures excavated follows Sanders's (1960) plan of Tancah with slight modifications (Fig. 8). Ideally, "structures" and "platforms" should be differentiated, but, because Sanders originally labeled every architectural manifestation, whether it be a vaulted chamber, a platform, or a pile of rubble, as "structure," I have decided not to deviate from that original nomenclature; the 1st, 2nd, and 3rd designations indicate a sequential layering of platform construction in the Structure 44 Complex (including Str. 42 and its subplatforms) from top to bottom so that the platform immediately beneath Structure 42-1st is called Structure 42-2nd and the one below that Structure 42-3rd (Fig. 11).

During 1974, excavations were carried out in eighty operations, each with the object of defining the vertical and horizontal position of a particular building unit or of

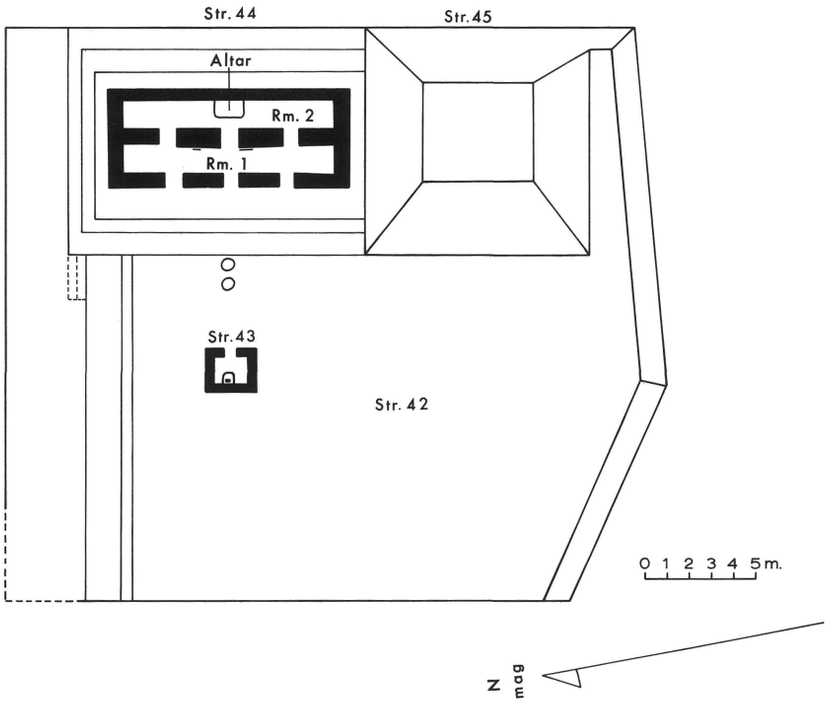


Fig. 10 Plan of the Str. 44 Complex, Tancah.

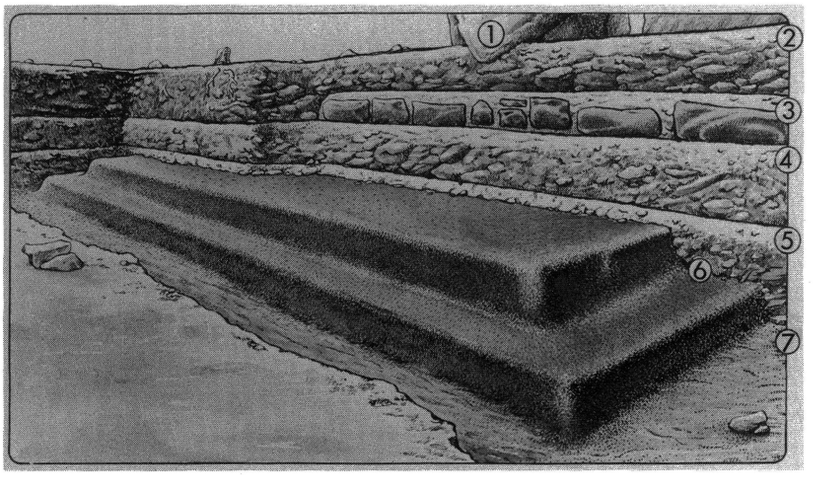


Fig. 11 Sequence of platform architecture beneath Str. 42, Tancah. 1: *Str. 43*. 2: *Str. 42-1st*. 3: *Str. 42-2nd: Unit 1*. 4: *Str. 42-2nd*. 5: *Str. 42-3rd*. 6: *Str. 42-4th*. 7: *Bedrock*. Drawing by F. Dávalos.

collecting ceramics representing chronological phases. Although most of the lots within these eighty operations turned out to be from mixed secondary deposits of building or platform fill (providing us with possible terminus dates of platform construction), we were fortunate in isolating several burials with associated pottery within these platforms; this enabled us to narrow our estimates of platform dating. Where possible, natural stratigraphic levels determined our excavation units, but often undifferentiated platform fill and conditions all too common to tropical lowland archaeology required digging by arbitrary twenty-centimeter levels.

The excavation crew consisted of three men: Secundino Sabido, Francisco Hau, and Isidro Canul, all from Chemax, Yucatan. I was excavation supervisor; Kees Grootenboer, Thomas Morgan, and Anthony Andrews aided field operations for short periods. The consolidation of Structure 44, required by our contract with the Mexican government, was carried out with the substantial aid of Master Mason Antonio Sierra, a Maya from Oxcutzob, Yucatan, in the Puuc region, whose more than twenty years of experience as a mason with Mexico's Instituto Nacional de Antropología e Historia contributed significantly to the preservation of Structure 44 and its murals (Fig. 12).

Thanks to ample photographic supplies provided by the National Geographic Society, we were able to record each excavation on Polaroid and negative film, both black-and-white and color. This step-by-step photographic record proved useful during our ceramic analysis when problems of stratigraphy not apparent during excavation became crucial, as in Operation 80, which became, in the context of earlier trenches, our single most important archaeological datum for fixing Structure 44 in time.

To avoid unfocused listing of data, and because the purpose of this chapter is to place Structure 44 and its murals in an archaeological matrix in order to understand their chronology, the presentation of our findings is selective. Tables II and III present the burial data in full. All archaeological data from our excavations are on file and available for consulting at the Program in Pre-Columbian Studies, Dumbarton Oaks.

THE SHAPE OF THE STRUCTURE 44 COMPLEX

Structure 44 is located to the west of two typically Maya groupings of structures within Tancah (Groups A and B; Lothrop 1924: Pl. 26), clustered around open spaces and forming the eastern sector of the site (Fig. 8). Belonging to the group of large platforms to the west and north of Groups A and B, Structure 44 was thought by Sanders (1960) to have been built after the buildings to the east. Our architectural, mural, and ceramic evidence tends to support that view, but Structure 44 is actually a complex of

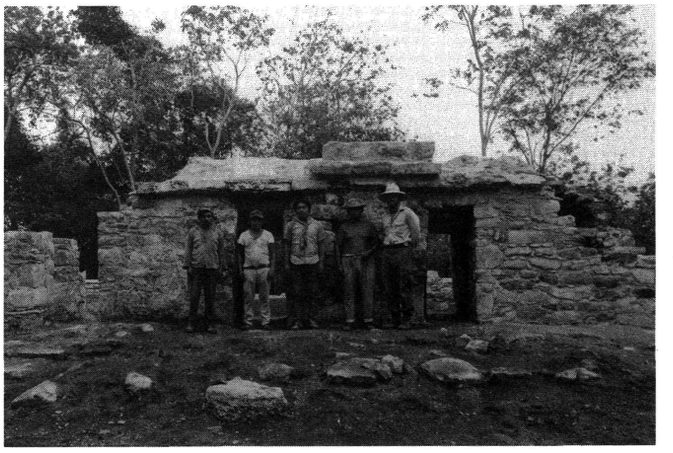


Fig. 12 Excavation crew in front of consolidated Str. 44, Tancah (June 1974). From left to right: Isidro Canul, Secundino Sabido, Francisco Hau, Antonio Sierra, the author.

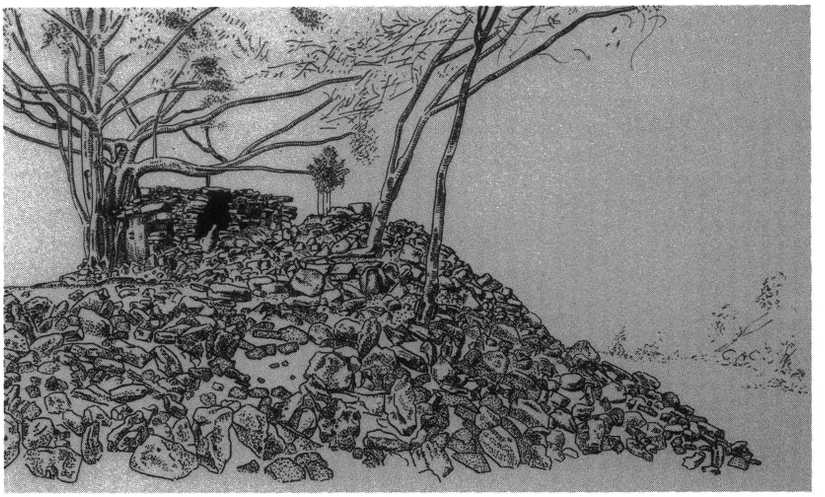


Fig. 13 Platform of Str. 44 as seen from the southwest. Str. 45 appears as the mound of rubble to the right of Room 1, Str. 44. Drawing by K. Grootenboer.

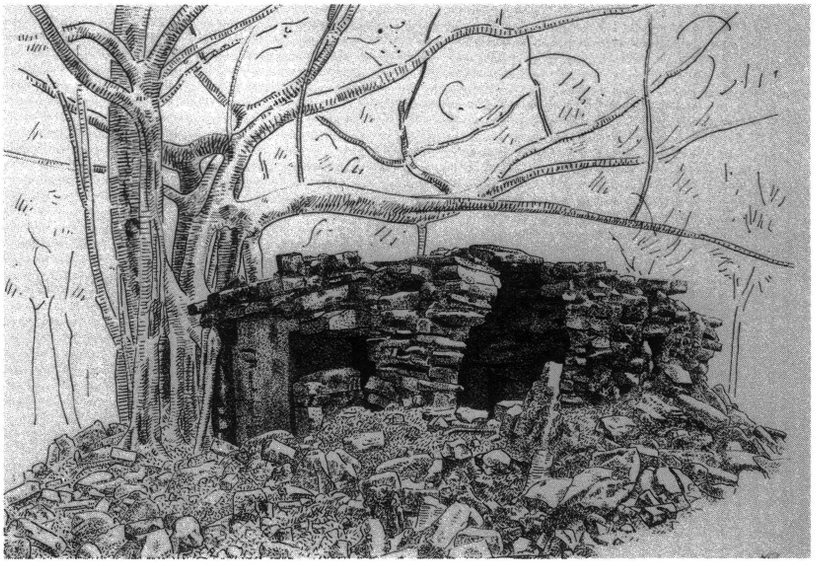


Fig. 14 Tancah Str. 44. Exposed southwest corner of Room 1 before excavation. Drawing by K. Grootenboer.

buildings. After clearing the dense vegetation obscuring its immediate surrounds, it became clear that what I call the Structure 44 Complex consists of four distinct architectural units (Figs. 8, 10, 13, 14). Sanders (1960: Fig. 1) had already designated the rectangular building with three entrances and two parallel rooms set on three terraces[2] as "Str. 44" (Fig. 15); what was left of the small shrine-like structure to the west of "Str. 44" he labeled "Str. 43"; and the platform upon which "Str. 44" and "Str. 43" were set he called "Str. 42." There is a square ruined building directly to the south on the Structure 42 platform that Sanders did not number but indicated with dotted lines. I have labeled this Structure 45 (Fig. 13), since that does not conflict with the Lothrop (1924) or Sanders (1960)[3] numeration of standing architecture at Tancah. Otherwise I have retained their original building designations throughout this book.

Sanders did not note the mural paintings inside Structure 44, nor did he excavate any part of its complex, except for a north-south trench outside Structure 42 which formed

[2]Obscured in Sanders's time, these three tiers are here considered part of Str. 44 itself.

[3]Sanders (1960: Fig. 1) does not have a Str. 45 on his plan.

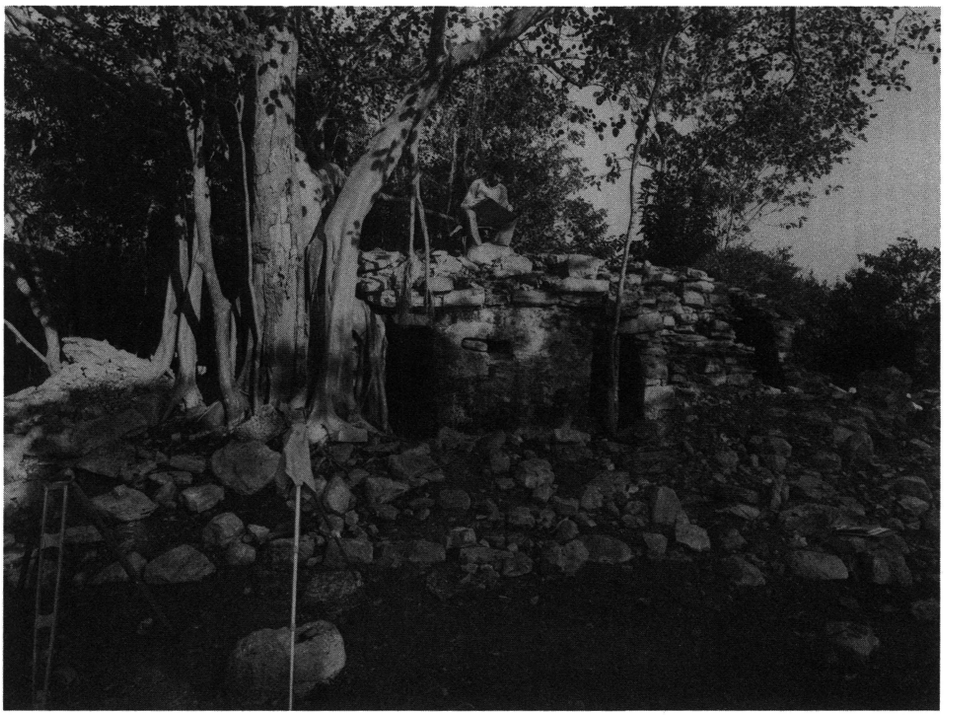


Fig. 15 West façade of Tancah Str. 44 prior to excavation.

Fig. 16 First level of Op. 5 as seen looking west showing the partially collapsed rubble from the north edge of Tancah Str. 42-1st. Figures in the background define eastern limit of Str. 42-1st.

part of his random settlement-pattern test-pitting program. Since Lothrop did not excavate at Tancah, and Sanders did not dig any architecture at Tancah, data from our architectural excavations represent the first collections from Tancah buildings.

With the two goals in mind of establishing a date for Structure 44 and its murals and reconciling architectural and ceramic chronologies, we set out to obtain as much relevant data as we could. To begin with, I wanted to understand the relationship between the platform on which Structure 44 itself rested (Str. 42) and what was outside of it; in order to do this, we began excavation with a north-south trench up to the north side of Structure 42. The purpose of this operation was three-fold: to define more clearly the north side of the Structure 42 platform, since its orientation was obscured by collapsed rubble fill and humus; to establish whether or not there was a stucco floor outside the Structure 42 platform; and to determine if there were chronological differences in fill between the platform of Structure 42 and the floor outside.

The results of this operation provided data about the orientation of the north side of the Structure 42 platform. This information, along with that provided by subsequent trenching, revealed the outlines of the north side of Structure 42 as drawn in Figure 10. We were able to establish that the area north of Structure 42 had been artificially filled in, and we got our first glimpse of typical Post-Classic Period Tancah fill techniques evident in the section shown in Figure 17. This observation was important because the technique of filling a platform was seen to change in time; Post-Classic fill technique differed noticeably from that of the Classic Period, as can be seen at a glance when one compares a section showing a Classic platform with one of the Post-Classic Period (Fig. 35). The most significant result of Operation 5 (Figs. 16, 17) was the discovery of two fragmented plaster floors, one at 5 centimeters pertaining to a late period of occupation, and one at 90 centimeters, pertaining to an earlier period, confirming the possibility of earlier platforms inside Structure 42. Although we were dealing with secondary deposits, this was our first indication that the Structure 44 Complex could provide us with some kind of platform sequence. We were correct in this notion, because subsequent digging inside Structure 42 revealed a platform construction history from the late Pre-Classic to the Post-Classic.

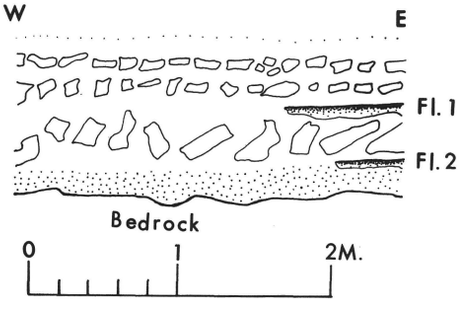


Fig. 17 Section drawing of Op. 5 showing two fragmented plaster floors beneath and outside the north edge of Tancah Str. 42. Above Fl. 1 is rubble from Str. 42-1st; between Fl. 1 and Fl. 2 was typical Post-Classic fill of large boulders (cf. Fig 35 showing similar fill of Str. 42-1st).

Various operations were carried out in order to clarify the original shapes of Structures 42–45 that comprised the Structure 44 Complex. Most problematical was the original form of the east edge of Structure 44 and the relationship between its terracing and Structure 42. Room 2 of Structure 44 had collapsed, causing debris to pile up at the base of the east side of Structure 42. A large trench was cut into this area, resulting in clarification of the original appearance of its terracing (Figs. 10, 18, 19).

STRUCTURE 42: CONSTRUCTION SEQUENCE OF EARLIER PLATFORMS

Reconstruction of the architectural history of the Structure 44 Complex was first revealed by a two-meter east-west trench that we called Operation 64 (Fig. 20), excavated into Structure 42. The original purpose of this cut into Structure 42 was to find direct evidence, such as a dedicatory cache, for fixing the Structure 44 Complex in time.

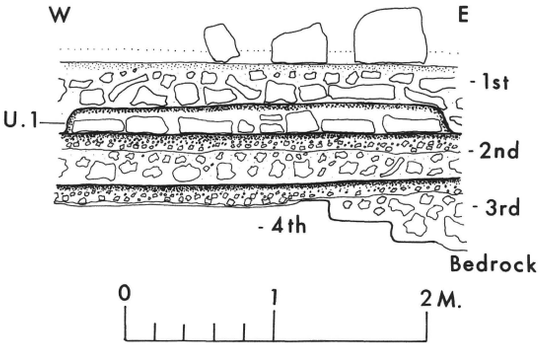


Fig. 20 Section drawing of Op. 64 revealing the building sequence of the platforms embedded within Tancah Str. 42.

Although there was no single piece of information that could incontrovertibly establish the period of construction of any part of the complex, cumulative evidence enabled us to date Structure 44 itself fairly narrowly. We also found data suggesting earlier constructions in the Structure 44 Complex: platforms imbedded in Structure 42, fortuitously associated with burials, as well as sealed secondary deposits of building fill containing datable ceramic material.

At 45 centimeters below the latest occupation floor of Structure 42 (Str. 42-1st), the trench of Operation 64 (Fig. 20) and the adjoining excavation beneath the floor of Structure 43 (Fig. 21) revealed portions of a large platform

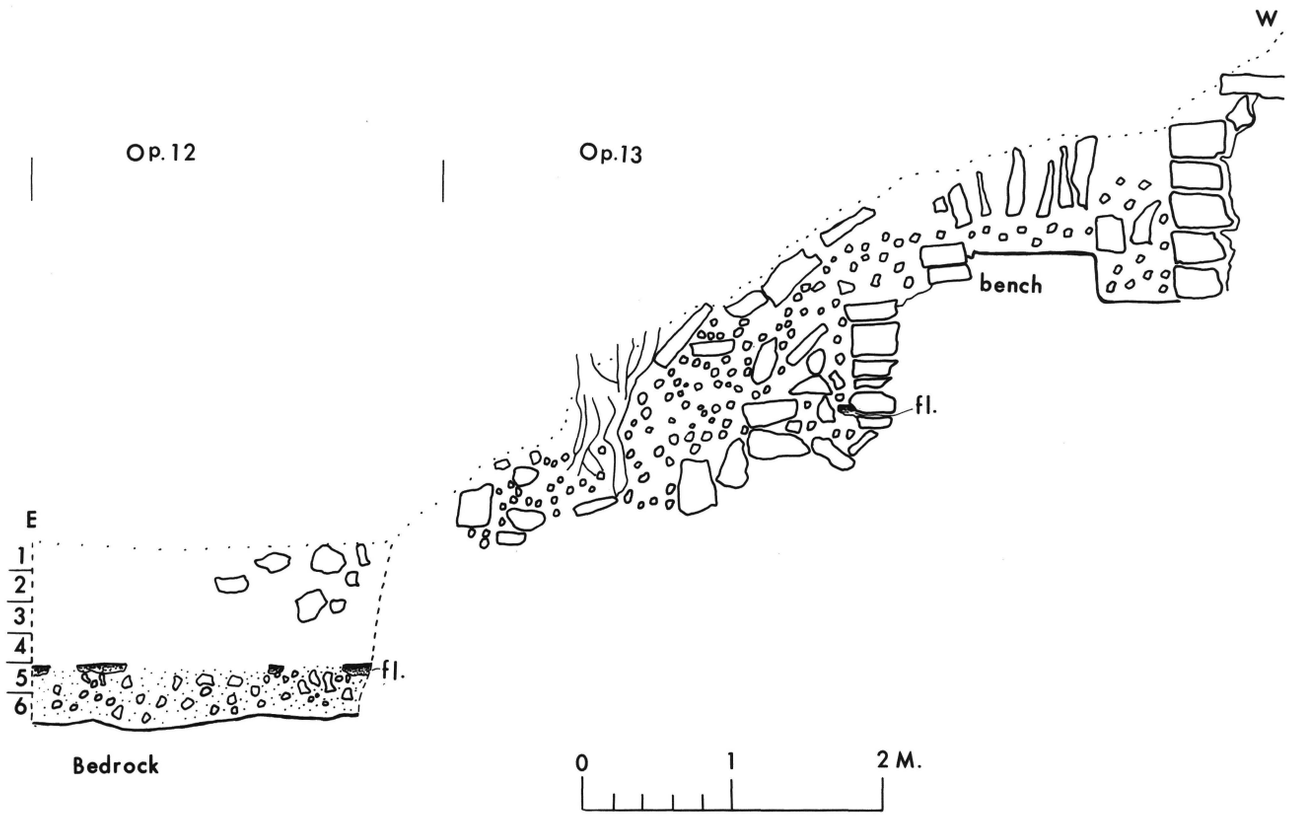


Fig. 18 Section drawing of the trench cut into the east side of the Str. 44 Complex at Tancah that provided evidence for establishing its original appearance as drawn in Fig. 19.

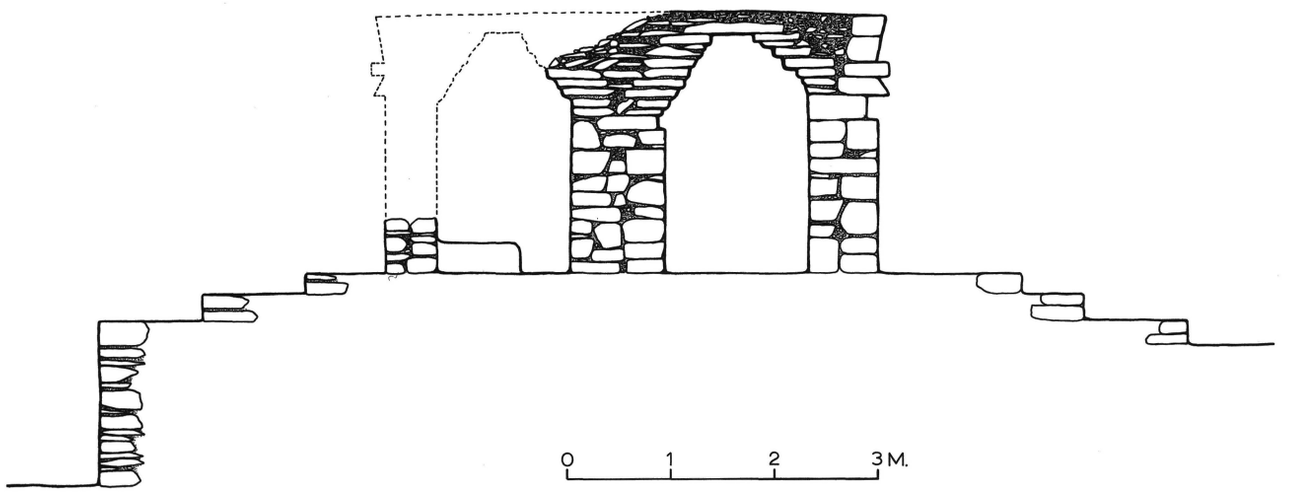


Fig. 19 Section drawing of Tancah Str. 44 and its terracing, showing the original appearance of the east terracing as indicated in Fig. 18.

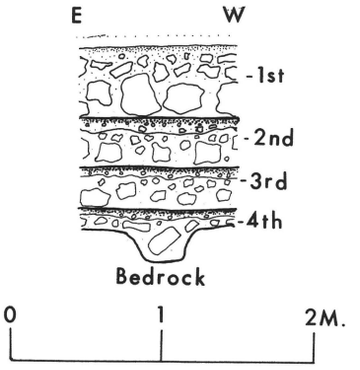


Fig. 21 Section drawing of Op. 63 revealing the building sequence of the platforms below Tancah Str. 43.

which we subsequently learned covered much of the same area as Structure 42 itself. Additional trenching exposed the north side of this platform, designated as Structure 42-2nd (Fig. 22); in due course, its west and south sides became visible. We were, however, unable to determine its east edge, since Structure 44 was positioned over it; had we explored its eastern limit, we risked damaging this structure, which we were under legal obligation to consolidate. We do know, nevertheless, that its east edge occurs somewhere between the first terrace of Structure 44 and our Operation 80 pit into Room 2 of Structure 44, where it did not appear (Fig. 23).

Thirty-two centimeters below Structure 42-2nd, we found another stucco floor belonging to an earlier platform (Str. 42-3rd), the extent of which we did not explore, but which occurred in enough of our trenches for us to determine that it was slightly smaller than Structure 42-2nd encompassing it (Figs. 20, 21). A still-earlier floor appeared in a restricted area, just below the stucco surface of Structure 42-3rd; this pertained to a small, red-painted, stepped platform labeled Structure 42-4th. By means of an analysis of the secondary ceramic deposits and burials, including ceramic offerings from sealed levels between the floors, we were able to determine that Structure 42-2nd was constructed during Terminal Classic/Early Post-Classic times, Structure 42-3rd during the Early Classic, and Structure 42-4th during the Terminal Pre-Classic (see Table I for the Tancah chronology). A small subsequent addition to the floor of Structure 42-2nd was labeled Structure 42: Unit 1; it was first encountered during the excavation of the Operation 64 trench (Figs. 11, 20). This turned out to be an exclusively mortuary unit having been laid directly onto the Structure 42-2nd floor in order to enclose a jumbled mass burial (Burial 7) which we assigned to the beginning of the Early Post-Classic Period on the basis of its ceramic offerings. Presented below is the evidence for dating these subplatforms, beginning with the earliest and proceeding in chronological order to later constructions.

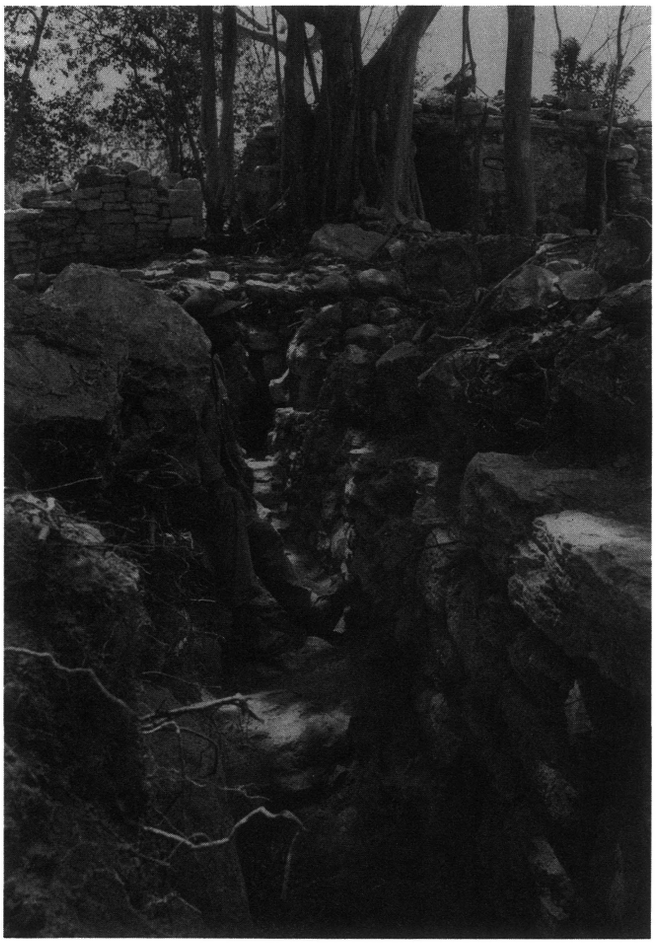


Fig. 22 Partially exposed north side of Tancah Str. 42-2nd.

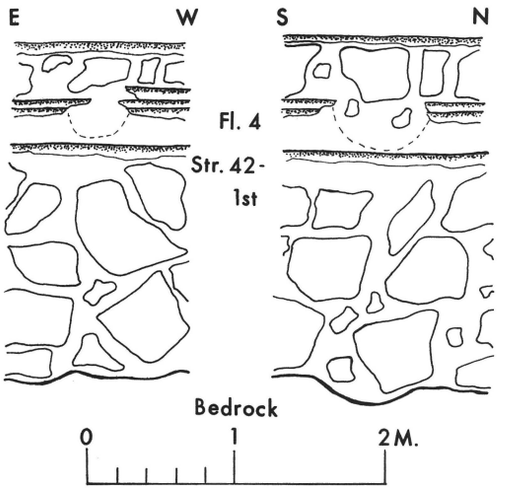


Fig. 23 Section drawing of the Op. 80 pit into Room 2 of Tancah Str. 44 showing the floors corresponding with its supporting platform (Str. 42) and terracing.

Structure 42-4th

Built directly on top of bedrock at 87 centimeters below our datum, we encountered a small stuccoed, stepped platform with traces of red paint revealing that it had originally been a solid red color (Figs. 11, 21). The exposed southeast corner indicated a slightly different orientation from those of the later platforms constructed above it (Fig. 24). Immediately beneath the floor of Structure 42-3rd, we could see that this earliest feature of the Structure 44 Complex had been disturbed anciently, ruling out the possibility of obtaining an unmixed sample of sherd material from inside the exposed portion of this platform (Fig. 25). At this point in the excavation, it was only possible to say that Structure 42-4th was earlier than the succeeding platforms that overlay it, but we had no evidence to indicate how much earlier. On the chance that a portion of Structure 42-4th may have survived intact farther to the north of the Operation 64 trench, we excavated a pit down to bedrock inside Structure 43 (Op. 63) (Fig. 21). There we came upon an undisturbed step of Structure 42-4th and obtained a small sealed ceramic sample, dating entirely and exclusively to the Terminal Pre-Classic, suggesting that this earliest architectural unit of the Structure 44 Complex, built directly on bedrock, was constructed no earlier than that period.

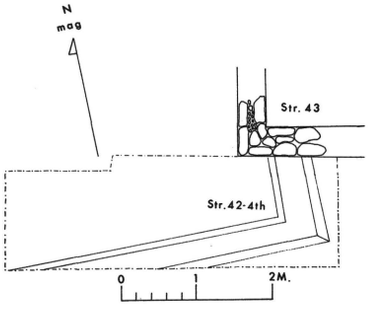


Fig. 24 Plan of the exposed portion of Tancah Str. 42-4th revealing its orientation which differs from that of the Str. 44 Complex, represented here by Str. 43.

Fig. 25 The steps of Tancah Str. 42-4th's south side appear on the left, with the anciently disturbed portion of this platform visible in the upper left. The inverted pottery vessel on the right pertains to a burial sealed inside Str. 42-3rd (Burial 10, see Fig. 35).

Structure 42-3rd

Constructed immediately over and greatly enlarging the small Late Pre-Classic platform of Structure 42-4th, Structure 44-3rd was found to contain several burials. In fact, six of the ten burials found during the course of the 1974 excavations were associated with Structure 42-3rd and proved to be Early or Middle Classic in date; there were also sealed secondary deposits from this platform showing no sherds later than the Middle Classic Period. Since burials were our best chronological markers, they are discussed here as the best evidence available for dating the construction of the platform.

Burial 1 The first Early Classic burial found appeared in the south wall of the Operation 42 trench, sealed by the thick stucco floor of Structure 42-3rd (Fig. 26) (see Table II

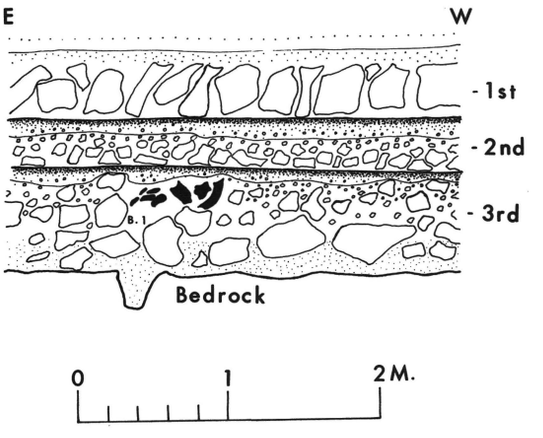


Fig. 26 Section drawing of the Op. 42 trench showing the location of Burial 1 sealed below the floor of Tancah Str. 42-3rd.

for the contents of this burial). The grave consisted of a circular cist lined with limestone slabs and covered with a large quasicircular limestone slab measuring 50 x 58 x 7 centimeters; it was partially embedded in, but definitely not intrusive into, the floor of Structure 42-3rd. Inside this cist, interred with a tentatively identified young adult male and female flexed on their right sides, heads to the east, were two pottery vessels and a small apple-green jadeite bead measuring 12 millimeters in diameter. Vessel 1 from Burial 1 is identified as a *Shangurro Red-on-orange*, medial-flanged dish with a rim base (Pl. 2). The first whole vessel encountered during 1974, it also proved to be the earliest, dating from A.D. 150–300 (Joseph W. Ball, personal communication, 1977). The other vessel associated with Burial 1 fits into the A.D. 250–400 range; it is a *Tituc Orange Polychrome: Tituc Variety* basal-flanged bowl with rounded bottom (Pl. 3). According to Ball (Appendix I), the Shangurro vessel pertains to a northern ceramic sphere, occurring on the northwest coast of the peninsula, north of the Puuc hills and inland on the northern plains, for example, at Ake. Such vessels do not occur on the west coast or inland in Campeche or Quintana Roo. On the other hand, the *Tituc Variety* of *Tituc Orange Polychrome* vessel is possibly of northern Belize origin (Appendix I). Thus the ceramic offerings associated with Burial 1 not only provide us with a probable chronological range for its dating between A.D. 250 and 300, but also point to a wide geographical area from which these wares were imported. Also, because the presence of *Tituc Orange Polychrome* was not reported by Sanders (1960), a previous gap in the ceramic chronology is filled as a result of finding these burial offerings.

A series of burials intrusive into the floor of Structure 42-3rd were found; all are assigned to the Middle Classic Period on the basis of the Corona group wares associated with the burials.

Burial 3 Located just to the south of Burial 1 and intrusive into the floor of Structure 42-3rd, Burial 3 was found to be a circular cist lined with limestone slabs and topped with an oblong slab measuring 21 x 25 x 6 centimeters (Fig. 27) (see Table II for contents). Two young adult individuals, flexed on their right sides, heads to the west, were found in the grave; the heads of the skeletons were both covered with a vessel identified as *Corona Red: Corona Variety*, a medial-ridged dish with tripod nubbin supports (Fig. 28). Also associated with this burial was a worked bivalve shell and one well-cut polished piece of pyrite or hematite mosaic possibly forming part of a mirror, a stingray spine, and a single obsidian blade of streaky gray color. Pending analysis of these obsidians, we assume the most likely source to have been highland Guatemala.[4]

[4] As of this writing, the lithics from the 1974 and 1975 seasons are still in I.N.A.H. headquarters in Merida, awaiting export permission for study at the University Museum.

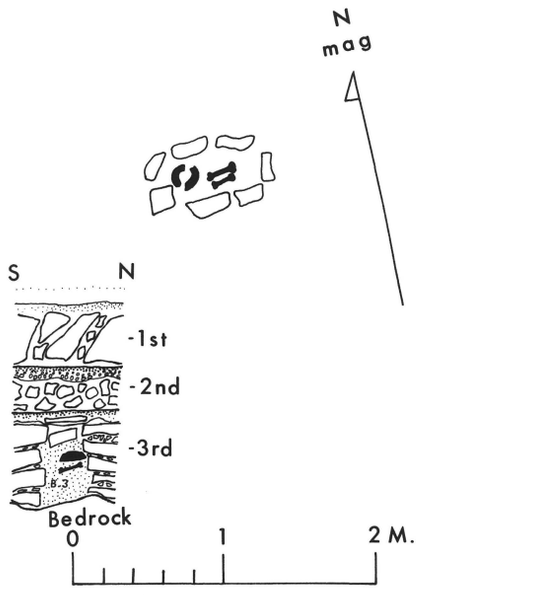


Fig. 27 Section drawing and plan of Burial 3, Tancah Str. 42-3rd.

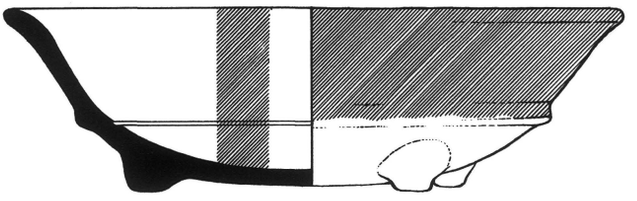


Fig. 28 Drawing of the *Corona Red: Corona Variety* medial ridged tripod dish from Burial 3, Tancah Str. 42-3rd.

Burial 4 Found directly in line with the south doorway of Structure 44, lined with limestone slabs, and covered with a single limestone slab measuring 88 x 56 x 7 centimeters, this burial cist was also intrusive into the stucco floor of Structure 42-3rd (Figs. 29, 30) (see Table II for contents). Two adult male skeletons were found in this grave but in such a jumbled state that it was surely a secondary burial. One of the skulls was covered by a vessel of the Corona group with a "kill hole" through its bottom (Fig. 31). Also found with this burial was a circular piece of worked chert 8 centimeters in diameter and 5 centimeters thick; this stone tool is very similar in size and shape to the "stone disks" found on Cozumel Island, off the East Coast to the north (Sabloff and Rathje 1975: Fig. 38). A mottled dark jade or serpentine bead measuring 23 x 18 x 15 millimeters was also found in association with Burial 4 (Fig. 30). But the most significant offering in this secondary intrusive burial was a jadeite or greenstone pendant measuring 54 x 44 x 16 millimeters (Fig. 32, Pl. 5). It was per-

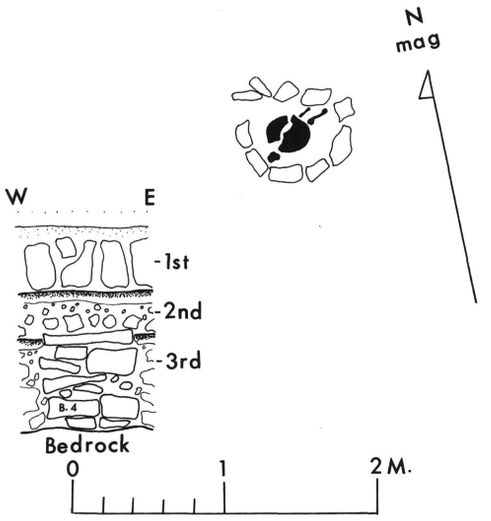


Fig. 29 Section drawing and plan of Burial 4, Tancah Str. 42-3rd.

Fig. 30 View of Tancah Burial 4 after removal of the ceramic vessel and skeletons. Remaining at the base of the oval shaped crypt are the greenstone bead, pendant, and piece of worked chert.

forated through its upper width to render it a pendant and seems to have been worn around the neck. Falling into the category of what Easby and Scott (1970: No. 71) called "bib-head pendant" and Proskouriakoff (1974: 96–97) labeled the "bib-and-helmet style," this object combines carving with incision: superimposed upon the low relief modeled face, "helmet," and "bib" are incised eyes, eyebrows, and a mouth. When this pendant from Burial 4 was uncovered in 1974, my first impression was that it was

Fig. 31 Corona group vessel from Tancah Burial 4 with a "kill hole" through its bottom.

Fig. 32 "Bib-and-helmet" style greenstone pendant from Burial 4, Tancah Str. 42-3rd. See also Pl. 5. Drawing by F. Dávalos.

"Olmecoid," an opinion since confirmed by Tatiana Proskouriakoff's monumental study, *Jades from the Cenote of Sacrifice, Chichen Itza, Yucatan*, in which she relates similar "bib-and-helmet style" pieces to an Olmec tradition:

> The helmetlike headdresses, the long plain ears, and the combination of fine incision and carving all hint of a remote connection with the ancient Olmec culture of Veracruz and Tabasco. (Proskouriakoff 1974: 97)

A further confirmation of Olmec origins for the Tancah "bib-and-helmet style" pendant comes from the Metropolitan Museum of Art catalog cited by Proskouriakoff:

> Easby and Scott (1970, no. 71) identify with the bib-and-helmet style a pendant of shell found with terminal Preclassic vessels in Tabasco (Stirling 1957, pl. 65), thus confirming a Preclassic date for this style. (Proskouriakoff 1974: 97)

When I first published our Tancah example, I suggested that the incisions were made sometime after the piece was originally carved, stating "it is probable that these crude later incisions were made by people who had no tradition of jade carving, i.e., the Early Classic Maya of Tancah" (Miller 1977a: 103). Elizabeth Easby (personal communication, 1977) has since convinced me that I may be wrong and that the combination of crude incision with relief carving is common in Pre-Classic jade work.

The "bib-and-helmet" pendant is perhaps the single most important artifact found during our excavations at Tancah, because it sheds light on the distribution of curious objects presumably manufactured during the Pre-Classic Period that were subsequently kept as heirlooms. In the case of Tancah, this object was interred with a later burial that can be assigned to the Middle Classic on the basis of our revised dating of the Corona group vessel associated with it. Our piece is one of eleven known "bib-and-helmets" found in archaeological contexts: one was found at Mayapan (Proskouriakoff 1962: Fig. 25b); four were found in Pre-Classic contexts at Nohmul, Northern Belize (Norman Hammond 1974: Fig. 7); five in Pre-Classic contexts from Cerros, also in Northern Belize (Freidel 1979: Fig. 9); and one comes from a Pre-Classic association excavated at Tikal (Easby, personal communication, 1977). Outside of archaeological contexts several others are known: a pendant remarkably similar to the Tancah example is now in the American Museum of Natural History and was reported to have been found at Santa Rita, on the Caribbean coast of Belize (Gordon F. Ekholm, personal communication, 1974); one forms part of the Olsen Collection at Yale; another is said to have been found at Ake, and still another at Ticul (both in northern Yucatan); and Proskouriakoff (1974: Pl. 53a) reports nine variants of this style found in the Cenote of Sacrifice at Chichen Itza. I also understand that a cache of "bib-and-helmet style" pendants was found in the Valley of Mexico (Easby, personal communication, 1977), although the report comes from a "dealer" of dubious reputation. Obviously, such widespread occurrences of these pendants make trade-distribution studies problematic, despite the fact that Hammond (personal communication, 1977) has carried out source evaluation studies of his Nohmul pieces, pinpointing the Motagua Valley as a source. Perhaps a source analysis of all known "bib-and-helmet style" pieces would disclose a meaningful pattern.

Despite the limitations of our current knowledge of the distribution of the "bib-and-helmet style," the occurrences firmly associated in archaeological contexts, combined with those "said to come from" various places in Yucatan, now suggest that they were pendants traded from or even manufactured in northern Belize during the Pre-Classic, and were distributed up the east coast of Yucatan and into its northern plains. Given the Middle Classic date for Tancah Burial 4, suggested by the Corona group vessel associated with it (Figs. 30, 31), the pendant was probably an heirloom when interred.

Burial 6 Found sealed below the floor of Structure 42-2nd, but intrusive into 42-3rd (Fig. 33), this grave was made in the by-now-familiar oval burial cist form but of atypical construction: large limestone slabs were placed on end to form the east and west sides of the burial, while smaller limestone slabs arranged in a bricklike, or "laja," fashion made up its north and south sides (see Table II for contents). The cist was capped with a single piece of limestone measuring 42 x 36 x 6 centimeters. The skeleton was that of a male adult, flexed on his side, head to the north; grave goods included a mass of small marine shells, a fragment of a stingray spine and two ceramic vessels, one of which contained eight repair holes and had been disassembled so that the smaller "half" could be placed inside the larger one. The two halves of the pot were apparently stacked to accommodate the restricted space of the grave. The repaired vessel belongs to the Corona group and is a basal-ridged dish with nubbin supports (cf. drawing of the Burial 3 Corona Ware, Fig. 28).

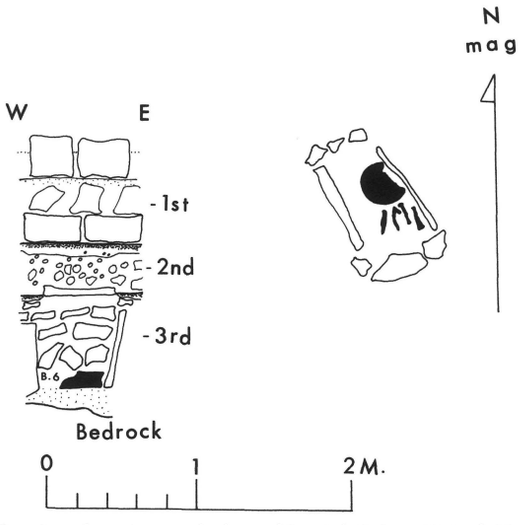


Fig. 33 Section drawing and plan of Burial 6, Str. 42-3rd, Tancah.

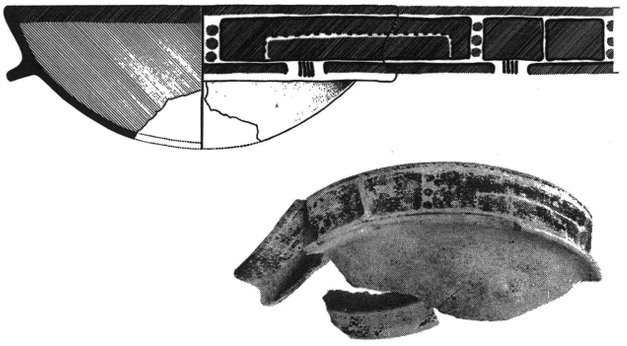


Fig. 34 Fragments and reconstruction drawing of the *Dos Arroyos Orange Polychrome* vessel associated with Tancah Burial 6.

Found in the southeastern corner of the grave was an incomplete vessel that has subsequently been identified as *Dos Arroyos Orange Polychrome: Variety Unspecified* (Fig. 34). This vessel fragment is particularly interesting because, unlike the other burial vessels we have thus far described, it may have been manufactured either in Campeche or the Peten between A.D. 250 and 450. Vessels such as this do not come out of Yucatan, but pertain to the Tzakol ceramic sphere, indicating that Tancah had some kind of ceramic interaction with the Peten or Campeche during the Early Classic Period.[5]

Burial 10 The last of the six burials found associated with Structure 42-3rd, this burial was clearly intrusive into the floor of Structure 42-3rd (Fig. 35) (See Table II for contents); the skeleton was so poorly preserved that the possibility of its being a secondary burial cannot be ruled out. Nevertheless, an incomplete skull was removed, along with two tibia, revealing that it had been trepanated, a probable cause of this individual's demise. The mutilated skull was found beneath an upside-down vessel belonging to the Corona group (Fig. 25).

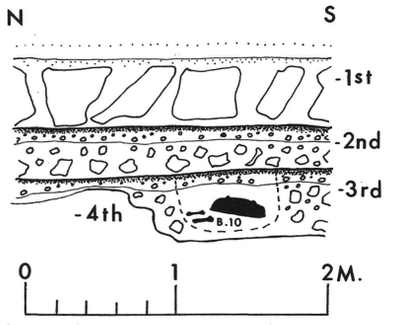


Fig. 35 Section drawing of Tancah Burial 10 intrusive into Str. 42-3rd. The difference between platform fill of the Classic Period (42-3rd) and that of the Post-Classic Period (42-1st) is particularly marked here.

Burial 2[6] Although it was the second burial we encountered in 1974, I have reserved mention of this chronologically significant grave that was intrusive into Structure 42-3rd because it was accompanied by a vessel suggesting a date later than that of the Corona group pottery associated with the other Structure 42-3rd graves (see Table II for contents). A flat-bottomed dish with outsloping sides, identified as *Saxche Orange Polychrome*, emerged from Burial 2 (Fig. 36, Pl. 4). Like the other vessels sealed by, or intrusive into, Structure 42-3rd, the *Saxche Orange Polychrome* had been placed over the skull of the skeleton after it was laid into a cist grave lined with limestone slabs; the grave was finally covered by a large circular limestone slab measuring 50 x 58 x 7 centimeters. Other than a fragment of stingray spine, this vessel was the only bit of grave furniture associated with Burial 2. Joseph W. Ball attributes a Northern Belize origin to this vessel. Found in the fill of Burial 2 was an example of *Petkanche Orange Polychrome* to which

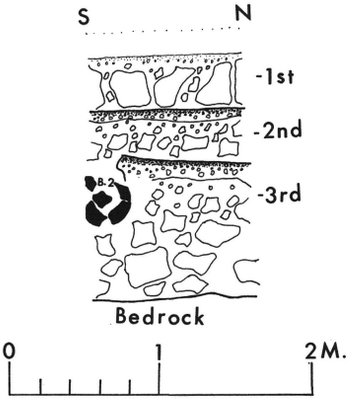


Fig. 36 Section drawing of Tancah Burial 2 intrusive into Str. 42-3rd.

Ball assigns a northern Belize-southern Quintana Roo origin. This ware, of a seventh century date, is best illustrated by the famous Quetzal vase from Copan, indicating a possible source.

While it is possible that Burial 2 was cut into Structure 42-3rd just prior to the construction of Structure 42-2nd, we know that 42-2nd itself was not cut through in the process.

The seventh century date of the Burial 2 offering and of the polychrome sherd found in its fill indicate a Middle Classic use of Structure 42-3rd. We know that Structure

[5] In Appendix I, Ball indicates that while ". . . Dos Arroyos Orange and Caldero Buff Polychromes could conceivably derive from anywhere between the north central Peten and northern Campeche, I would argue for the general northern Belize–Rio Hondo area on grounds of economy of explanation."

[6] The poorly preserved and fragmentary skeletal material from this burial was lost in shipment to Merida and consequently could not be analyzed by Saul.

42-3rd is at least as old as the Early Classic Period because Burial 1 produced sealed examples of *Shangurro Red-on-orange* and *Tituc Orange Polychrome*. This gives us an early and late spread for the use of Structure 42-3rd. Laid down between the fifth and seventh centuries, Burials 3–6, all associated with Corona Group Ware, suggest that Structure 42-3rd was continuously in use for at least three centuries—a long time for a Maya platform, even with repeated resurfacing—implying minimal architectural activity during a large part of the Classic Period, at least in this part of the site.

Structure 42-2nd

A still-larger architectural feature, designated Structure 42-2nd, was found enclosing our Middle Classic platform (Fig. 22); its dating was suggested by the secondary deposits of ceramic material collected from between the floors of Structures 42-3rd and 42-2nd (Fig. 37).[7] These lots contained Ticul Group Thin-slate Ware, which Ball evaluates as being the latest material in the deposits, suggesting a Terminal Classic or later date for the construction of this platform. Three burials with ceramic offerings were found directly associated with Structure 42-2nd, giving an idea of its period of construction and use.

Fig. 37 Stuccoed floor of Tancah Str. 42-2nd supports the trowel and brush; the tape measure rests on Str. 42-3rd, and the excavator stands on the lower step of Str. 42-4th.

Burial 8 Because Burial 8 was partially disturbed by the laying down of the subsequent mortuary feature, Structure 42: Unit 1, containing Burial 7, the skeletal material of this grave was scattered (see Table II for contents). Fortunately, its direct dating evidence, a *Sayan-Red-on-cream* vessel (Fig. 38) survived the disturbance. Considered an excellent marker for the last gasp of the Classic Period, this vessel gives a good indication of the probable earliest possible date for Structure 42-2nd.[8]

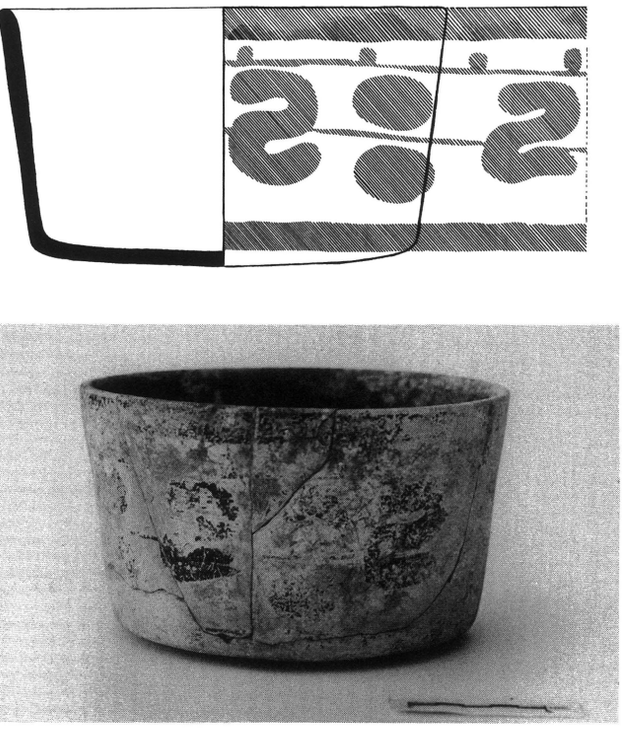


Fig. 38 *Sayan Red-on-cream* vessel from Tancah Burial 8.

Burial 9 Another grave (Fig. 39), intrusive into Structure 42-2nd, contained the skeleton of a child and a vessel of the Teabo Group Puuc Red Ware (Fig. 40) (see Table II for contents). The vessel has a time span of A.D. 800–1000, providing another bit of evidence that Structure 42-2nd was in use during the Terminal Classic Period.

Burial 7 Inside the small mortuary platform designated Structure 42: Unit 1, that had been added onto the floor of Structure 42-2nd (Fig. 41), we encountered a secondary multiple burial, labeled Burial 7. The skeletons of seven individuals were found fragmented and in very poor states of preservation (Fig. 42). This mass ossuary, the contents of which are described in Table II, produced evidence of acromegaly (giantism) in one of the individuals (Appendix II). Fascinating as this burial feature is, our primary interest here is in the direct dating evidence the grave contained. Found was a red-on-orange bowl of Puuc Red Ware, its rim decorated with painted chevrons (Fig. 43). Labeled as Vessel 1 of Burial 7, it is like the vessels belonging to the Copo 2 complex at Dzibilchaltun. The worn rim of the vessel indicates that it was already old when interred. Another bowl, Vessel 2, from Burial 7 is an example of the Slate Muna group specifically identified as a *Chumayel Red-on-slate* basal-break dish with solid slab supports (Fig. 44).

[7] See the Dumbarton Oaks archive of these lots under Ops. 63–69.

[8] Ball states that this vessel may have come from northern Campeche (see Appendix I).

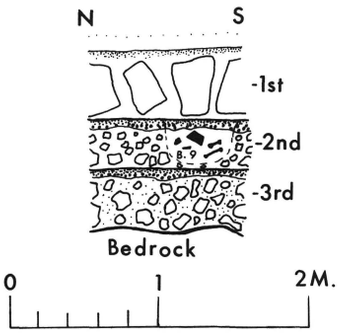


Fig. 39 Section drawing of Tancah Burial 9 intrusive into Str. 42-2nd.

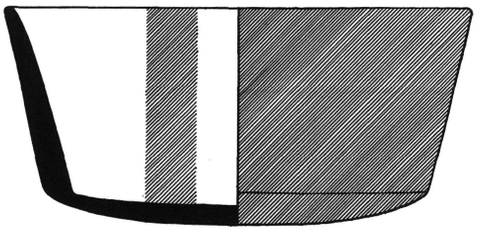


Fig. 40 Teabo Group Puuc Red Ware vessel from Burial 9, Tancah Str. 42-2nd.

Fig. 41 Tancah Str. 42: Unit 1 is beneath the tape measure, right of center. The two large post holes in the floor of Str. 42-2nd, left of center, probably supported part of a ramada-type structure which may have covered this mortuary feature. Photo taken in February 1974.

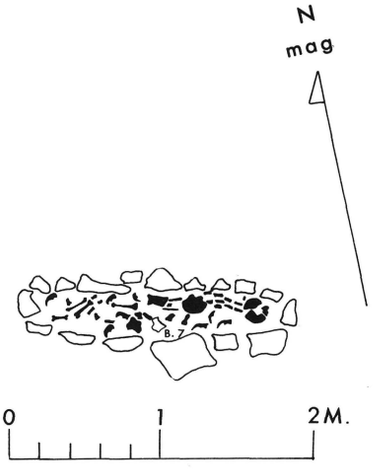
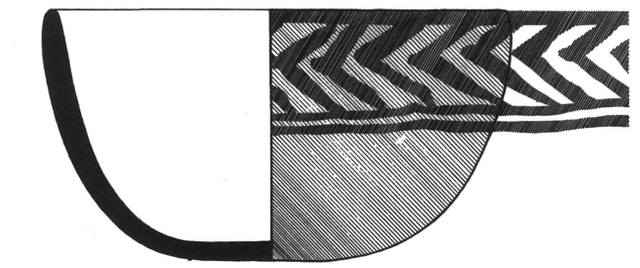
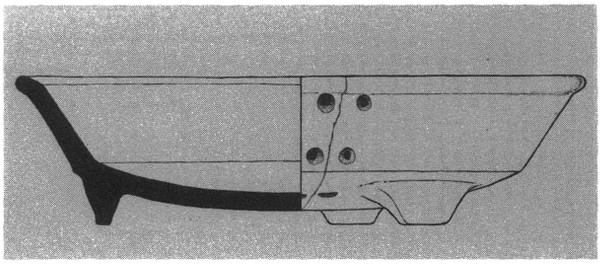


Fig. 42 Plan of mass Burial 7, inside Unit 1.

The other artifact furniture of this grave were a greenstone or jadeite tubular bead and a worked shell identified as a spondylus. Although there is no direct evidence for this assumption, the layout of the mass grave suggests that the bead and shell artifacts may have come from the primary associations, whereas the pottery appears to be uniquely associated with Structure 42: Unit 1. Because Puuc Slate Ware at Tancah continues to be manufactured into the Early Post-Classic Period, exemplifying the developmental ceramic sequence from Terminal Classic into Early Post-Classic times at Tancah, the pottery offerings associated with the multiple Burial 7 suggest that it was laid down during the end of the Terminal Classic or the beginning of the Early Post-Classic Period.[9]

[9]The rather cumbersome Terminal Classic/Early Post-Classic designation will be used in the rest of this book to designate the period associated with Burial 7 to convey my current uncertainty about when this burial was laid down, i.e., *ca.* A.D. 770–1200. Nevertheless, I opt for the earlier part of this spread.





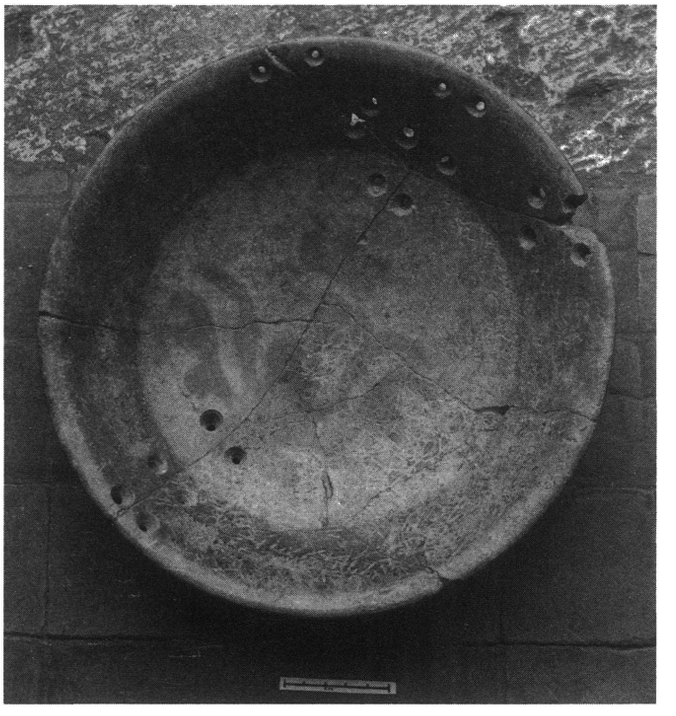


Fig. 43 Vessel 1 from Tancah Burial 7 (Puuc Red Ware).

Fig. 44 Vessel 2 from Tancah Burial 7 (*Chumayel Red-on-slate*) which had been repaired several times before interment.

THE CONSTRUCTION DATE OF STRUCTURE 44

Neither burials nor caches were found pertaining to periods later than the construction of Structure 42: Unit 1 with its mass burial. We did, nevertheless, obtain several ceramic collections between the poorly preserved floor of Structure 42-1st and that of Structure 42-2nd in several excavation operations (see sections in Figs. 20, 22, 26, 27, 29, 33, 35, 36, 39), the latest sherds of which are Peto Cream Ware (Appendix I). It is important to note that none of our collections from between these floors produced Tulum Red Ware or Effigy Censer Ware sherds, which are diagnostic of the major ceramic break that characterizes the Late Post-Classic Period, beginning *ca.* A.D. 1400 and represent the major period of Post-Classic florescence on the East Coast, the heyday of Tulum, when most of its murals were executed.

If Peto Cream Ware comprises the latest secondary fill material from Structure 42-1st, what then was the architectural relationship between this platform and Structure 44 itself, and when was Structure 44 constructed? Obviously the most effective means of answering these questions would have been to continue the Operation 42 trench into Structure 44, cutting through it and excavating down to bedrock. But to do so would have made it impossible to preserve as much as possible of Structure 44 and its newly discovered murals and to ensure its preservation by structural consolidation. We therefore employed less direct means to date the building.

Figure 45 illustrates a composite section showing all our excavated construction stages beneath Structure 42 as well as its relationship with what underlay Structure 44. Our Operation 80 excavation beneath Room 2 (Fig. 23) was the most crucial for understanding the date of mural-bearing Structure 44. Peto Cream Ware is the latest ceramic material found beneath the Structure 42-1st floor upon which Structure 44 and its terracing were built. Conspicuous in the lots below Structure 42-1st is the absence of Tulum Red

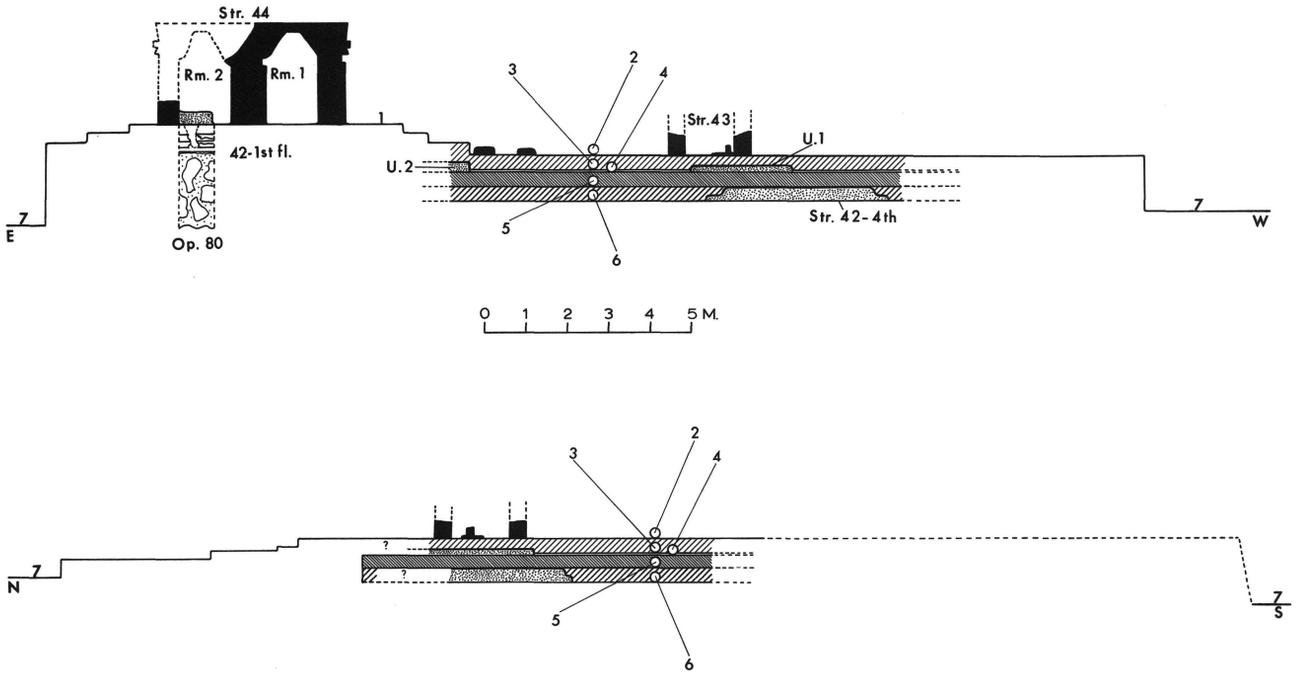


Fig. 45 Composite section drawing of the 1974 Tancah excavations showing the construction sequence of the platforms. 1: *Str. 44 terrace.* 2: *Str. 42-1st floor.* 3: *Str. 42-1st platform fill.* 4: *Str. 42-2nd replastered floor.* 5: *Str. 42-2nd platform fill.* 6: *Str. 42-3rd platform fill.* 7: *Stucco floor abutting Str. 44 Complex.*

sherds. Further, there is a notable absence of Effigy-Censer Wares, with the presence of Peto Cream Ware along with Filleted Censer Wares; a similar situation was encountered while dismantling wall sections of Structure 44 during its consolidation. In sum, the secondary fill material found beneath supporting Structure 42-1st and inside Structure 44 indicates a period of construction after the introduction of Peto Cream but before Tulum Red, i.e., during our Middle Post-Classic Period.[10]

LATE POST-CLASSIC OCCUPATION OF THE STRUCTURE 44 COMPLEX

Because Tulum Red and Effigy-Censer Wares (Fig. 6) were found on the surface of the Structure 44 Complex, we know that there was a Late Post-Classic occupation there (Fig. 46). However, unlike the rest of Structure 42-1st and

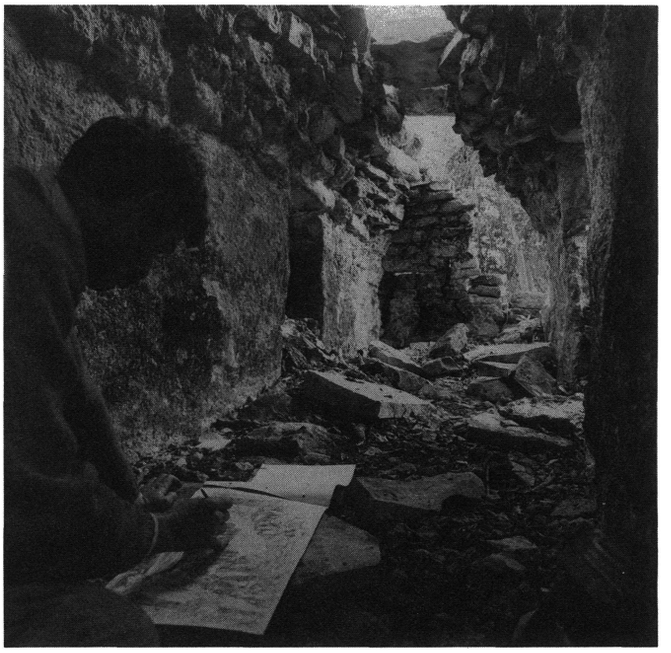


Fig. 46 Surface of Room 1, Str. 44, Tancah. Found in the debris above the floor were Tulum Red sherds as well as Tulum effigy wares such as the one illustrated in Fig. 6. Photo taken in January 1974.

[10] In Appendix I, Ball argues for "a late tenth or eleventh century placement" for Str. 42-1st, a dating I think too early given our evidence. Ball does not take into account that our Ops. 14 and 22, representing undisturbed, above-floor surface debris from the collapsed vault of Room 2, each produced a Matillas Group Orange Paste-Ware sherd (which Ball dates A.D. 1150–Early Colonial Period) with stucco mortar still adhering to one of them. Admittedly this is equivocal evidence; but sealed beneath Str. 42-1st in Op. 80 we found Peto Cream Ware that Ball believes to persist as late as A.D. 1400 (Appendix I). Furthermore, the independent dating of the Str. 44 mural style places it at *ca.* A.D. 1350. While the mural could have been painted years after the construction of the building, the 350-year gap between building and mural, implied by Ball's dating, is extremely unlikely.

the fill of Structure 44 itself, we found diagnostic Late Post-Classic wares below the floor of Room 2 (Fig. 23). It had been cut into anciently, fragments of a burial left behind, filled with material containing Late Post-Classic wares, resealed, and resurfaced with stucco. Sometime after Structure 44 was built and before the occupation of Tancah by the González family in the 1920s, the vault of Room 2 collapsed,[11] preserving intact the above-mentioned evidence of possible ancient looting. In Chapter IV, I present a hypothetical reconstruction of events regarding the cut and repair of the floors beneath Room 2 as being the result of looting by Late Post-Classic peoples of a burial laid down during the Middle Post-Classic. As tenuous as this reconstruction may be, it is incontrovertible that Structure 44 was occupied during a succeeding period distinct from the time it was built. Our evidence from Structure 44 confirms Sanders's earlier observation:

> Of great interest is the abrupt shift from earlier to Tulum Period wares. . . . Wherever floor levels are well preserved the ceramics show a complete change, indicating the arrival of, or the use of these structures by, a foreign group without antecedents in the Tancah area. (Sanders 1960: 169).

As did Sanders nineteen years before, we found evidence for an abrupt change in the Tancah ceramic tradition: Peto Cream disappears and Tulum Red is introduced at the same time as filleted censors are replaced by effigy censers. While Tulum Red Ware exists on the surface at Tancah, we have no idea of its frequency relative to earlier periods. At Tancah, Early and Middle Post-Classic architecture was kept up and apparently used by an undetermined population during the Late Post-Classic. During this time, a Classic stela, possibly from Tancah, may have been moved to Tulum,[12] suggesting that at the time, Tulum was more important than Tancah.

That the Structure 44 Complex was occupied during the Late Post-Classic is confirmed by scattered examples of Late Post-Classic architecture at Tancah. Structure 10 is a "3-in-1 building" (Fig. 47), in front of which we found an example of a free-standing Diving God sculpture associated with the Late Post-Classic Period (Fig. 48). Also, Structure 45 (Fig. 13)—the ruined building to the south of Structure 44 on the Structure 42 platform—is sequentially later than Structure 44 itself, against which it abuts (Fig. 49); Structure 45 is probably Late Post-Classic in date, since we found diagnostic Late Post-Classic wares in its fill. In addition, the small shrine directly opposite Structure 44, known as Structure 43, was built during the Late Post-Classic. The method of construction, size, and shape of this shrine-like structure, along with the Tulum Red fill of its walls, all point to a post-1400 date for its construction (Fig. 50).

Fig. 47 Tancah Str. 10. Photo by E. W. Andrews v.

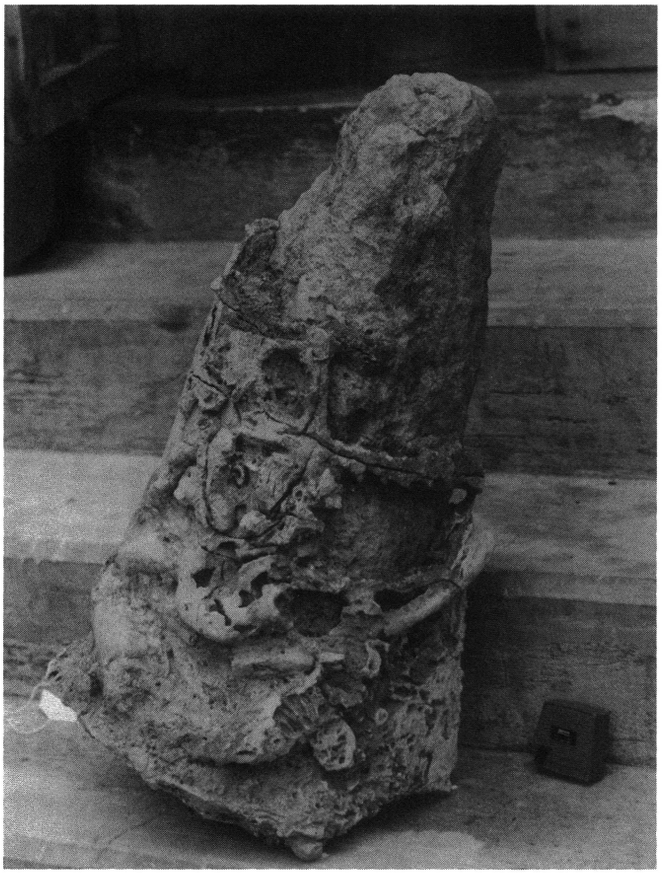


Fig. 48 Freestanding stuccoed Diving God sculpture found in front of Tancah Str. 10.

[11] We cannot say how long the vault of Room 2 had been intact, but we do know that it collapsed at least fifty years ago and probably before that (González Avilés, personal communication, 1974).

[12] Morley designated this 9.6.10.0.0.0 stela as Tulum Stela 1. See Chapter IV for a discussion of this stela and its relationship to Tancah, Tulum, and possibly Coba.

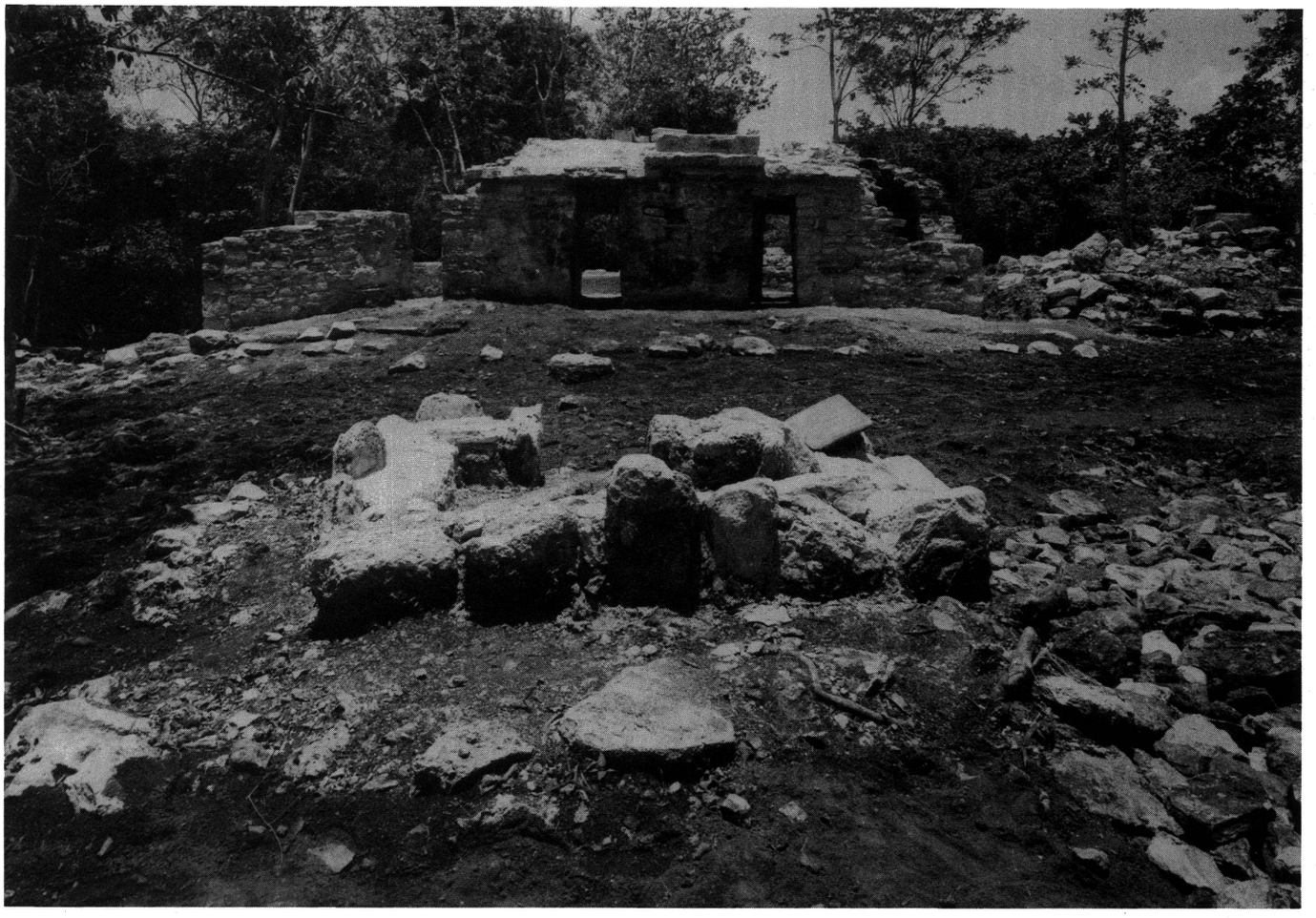


Fig. 49 Tancah Str. 44 after consolidation; Str. 45 is the rubble mound to the right, and Str. 43 is in the foreground.

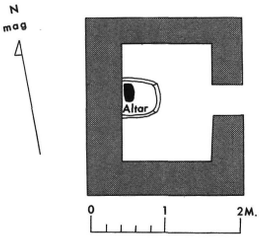


Fig. 50 Plan of Tancah Str. 43.

SUMMARY OF THE CERAMIC AND PLATFORM SEQUENCE OF THE TANCAH STRUCTURE 44 COMPLEX

The sequence of ceramics and architecture of the Structure 44 Complex was clearly revealed by excavating its superimposed platforms, all of which produced samples of sealed deposits. Burials associated with Structure 42-2nd and Structure 42-3rd corroborate the dating of these platforms as suggested by the latest sherds found in the sealed lots of fill.

Structure 42-4th is the earliest, underlying the subsequent platforms and built directly on bedrock during the Late Pre-Classic Period. Structure 42-3rd, constructed directly above the Pre-Classic platform, included a much larger area; the six burials dating from the Early and Middle Classic that were found within it suggest its long use as a funerary repository from as early as the third century A.D. (the approximate date of Burial 1, on the basis of its two pottery vessels), when it was probably built, to as late as the seventh century A.D. (the approximate date of Burial 2, on the basis of its pottery vessel). A subsequent addition, Structure 42-2nd, assumed much the same area as its predecessor; two burials as well as sealed fill material indicate a Terminal Classic date for this platform. Added directly onto the floor of Structure 42-2nd was a small mortuary feature (Str. 42: Unit 1) containing a mass burial of seven individuals and two ceramic vessels belonging to the beginning of the Early Post-Classic Period.

The floor pertaining to the latest use of the Structure 44 Complex (Str. 42-1st) was dated to the thirteenth–four-

teenth centuries on the basis of sealed deposits collected from beneath it. The presence of Peto Cream and the absence of Tulum Red beneath this floor indicate that Structure 42-1st and Structure 44 were both constructed during the Middle Post-Classic Period.

Post-1400 occupation was clearly indicated by the Tulum Red and Effigy Censer Wares found on the surface of the Structure 44 Complex, as well as by the ruined Structure 45 abutting Structure 44 and by the small shrine, Structure 43.

STABILIZATION AND CONSOLIDATION

Figures 51–57 show aspects of the stabilization and consolidation work carried out on the Structure 44 Complex in May and June of 1974. The primary purpose in this work was to protect the murals in Room 1 from exposure to sun and rain, so it was necessary to stabilize the vault in Room 1 and seal the roof with Portland cement. As of January 1977, when I last saw Structure 44, the building and its murals were in good condition, although the surrounding bush had reclaimed them as its own.

Fig. 52 Room 1 vault of Tancah Str. 44 after consolidation, looking south. Photo taken in June 1974.

EARLY COLONIAL OCCUPATION AT TANCAH

During the 1974 survey of the western portion of Tancah, we discovered a distinctive architectural form and labeled it Structure 71, in accordance with the Sanders (1960) system. I have identified this building as a Spanish chapel (Figs. 58, 59). The 1975 excavations were devoted to gathering information that proved it to be a single construction unit of the Early Colonial Period. During April and May of 1976, research in the Archivo de Indias, Seville, disclosed indirect evidence pertaining to this structure, which is discussed in Chapter IV. Notwithstanding the introduction of Spanish culture in the form of Christianity and foreign political control, there was continuity in terms of architectural technique, ceramics, and mural painting between the Late Post-Classic and Colonial Periods in the Tancah–Tulum zone.

Structure 71 exhibits several Spanish and Maya features in combination (Fig. 58). Its most striking architectural characteristic is that it is a Christian form constructed with thoroughly Maya building techniques of the Late Post-Classic. It is essentially a raised platform, 23 x 10 meters,

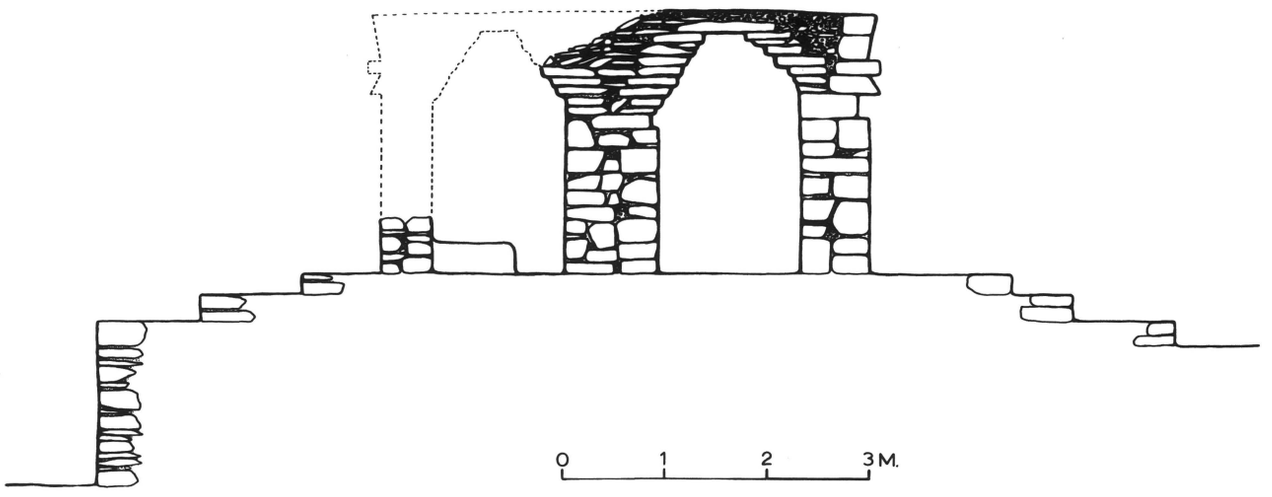


Fig. 51 East–west section drawing of Tancah Str. 44 and its terracing.

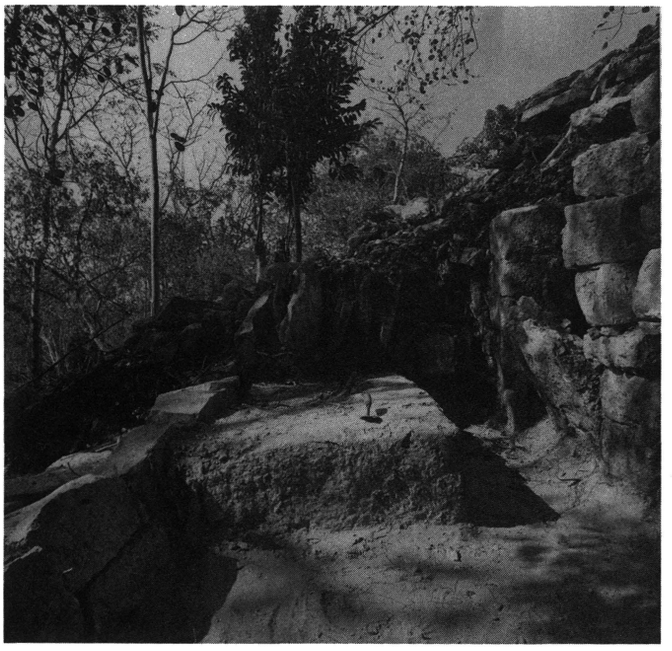


Fig. 53 Room 2 of Tancah Str. 44 partially cleared, looking south and revealing the Late Post-Classic "altar" and the collapsed vault that covered it for at least 50 years. Photo taken in March 1974.

Fig. 54 Room 2 of Tancah Str. 44 after excavation and consolidation. Reconstruction of its vault was not attempted. Photo taken in June 1974.

capped with a stucco floor. The large boulder fill and the Tulum Red pottery sherds found in the lowest levels of our test pits suggest a Late Post-Classic horizon for the construction of the platform. Were it not for the non-Maya configuration of the nave, galilee, and high walls on the east end, defining and protecting the altar area, and the precise magnetic east-west orientation of the platform, Structure 71 could easily be taken for one of the many Late Post-Classic platforms that occupy this extreme western area of Tancah. But our four pits into Structure 71 itself showed it to be a single-unit construction, the form of which clearly implies a date after the introduction of Christianity. In terms of ceramics, however, the transition into Early Colonial is not apparent. As Charlton (1972: 206) has pointed out for the valley of Teotihuacan, the development from Pre-Conquest to Colonial is not immediately apparent in the ceramic sequence. Pendergast's ongoing investigations of the Spanish chapel at Lamanai in Belize suggest the possibility that Tulum Red pottery was being manufactured as late as 1650 (Pendergast 1977: 130). A profile drawing of the east wall of Structure 71 (Fig. 59) reveals the use of large boulders set in a matrix of small stones and mortar; this is typical of the Middle and Late Post-Classic Maya construction technique (called Mampostería in the Colonial Period), that we found during the 1974 excavations of the Structure 44 Complex.

In plan, Structure 71 resembles the chapel at Dzibilchaltun (Folan 1970: Fig. 3). It is much smaller than the Xcaret chapel (Andrews IV and Andrews 1975: Fig. 39), located some 50 kilometers north of Tancah, or the Lamanai chapel

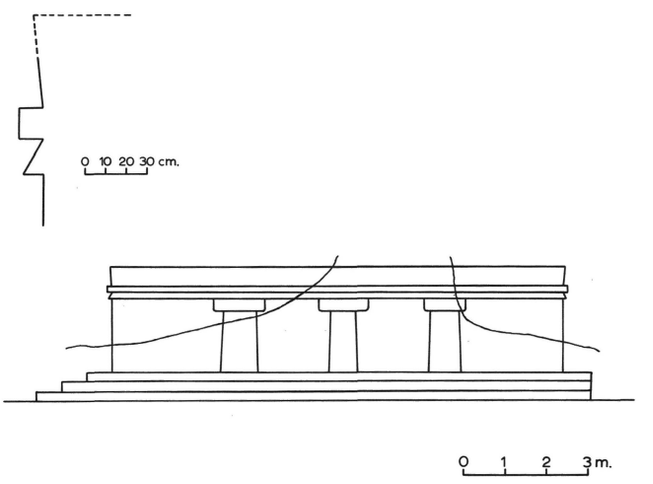


Fig. 55 Elevation of the west façade of Tancah Str. 44.

(Castells 1904: 32–37). Because we found no roof rubble, we assume that the nave was originally enclosed by pole-and-thatch construction and that the stones of the four steps located on the north side marked the entrance to the nave. Such an interpretation would explain the function of the narrow niche in the east side of the galilee as a repository for a *santo* or other holy image, which would have faced west onto an open galilee and courtyard. The most protected area was the altar enclosed by Mampostería construction on the east, north, and south sides. The open

Fig. 56 View of Tancah Str. 44 from the northwest.

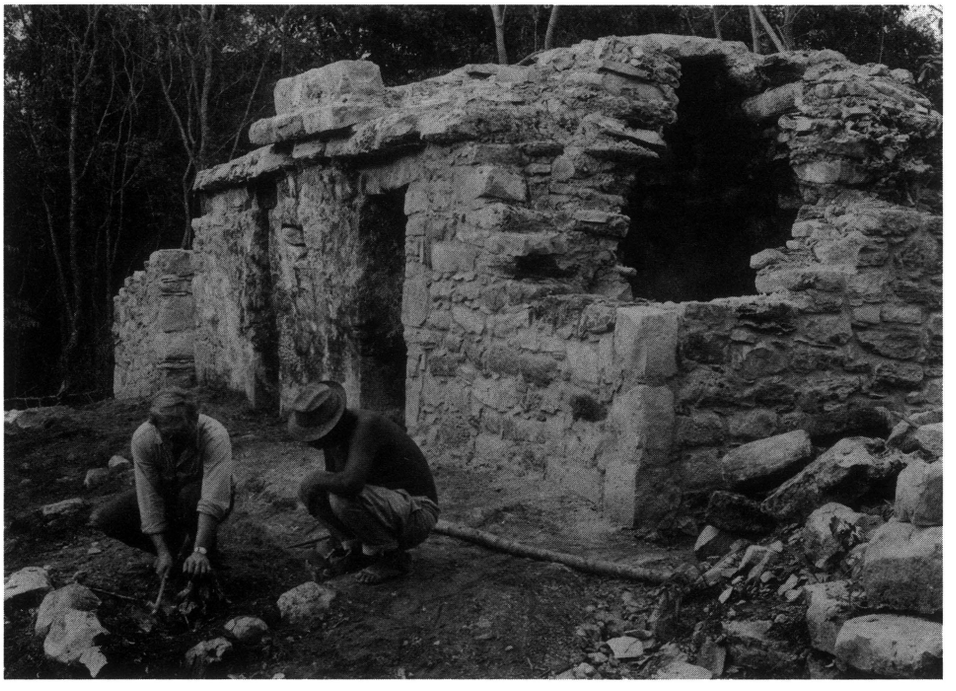


Fig. 57 View of consolidated Tancah Str. 44 from the southwest.
Photo taken in June 1974.

chapel design, with nave enclosed by pole and thatch, or open to the sides with thatch roof only, is typical of Early Colonial churches. We have documentary evidence that very few churches in the whole peninsula were made entirely of stone by the end of the sixteenth century (AGI, Mexico 369, 1599).

Excavation of the Tancah chapel provided evidence for the continuity of Pre-Columbian and Colonial ceramic and burial traditions, despite the obviously new architectural form represented by the chapel itself. Most of the burials we encountered were located under the stucco floor of the nave, a practice that is not exclusively Spanish, since the Maya buried their dead under the floors of their houses and temples. But the simple east-west dorsal position of most of the burials, and the lack of offerings of any kind, clearly point to Christian practice (Fig. 60). In all the test pits made inside the platform and next to it, with the significant exception of the altar area, we encountered a total of twenty-three burials, almost all of which were oriented east-west. On the basis of these pits, it would seem that every available space inside and outside the chapel was filled with the dead and that it served as a consecrated bur-

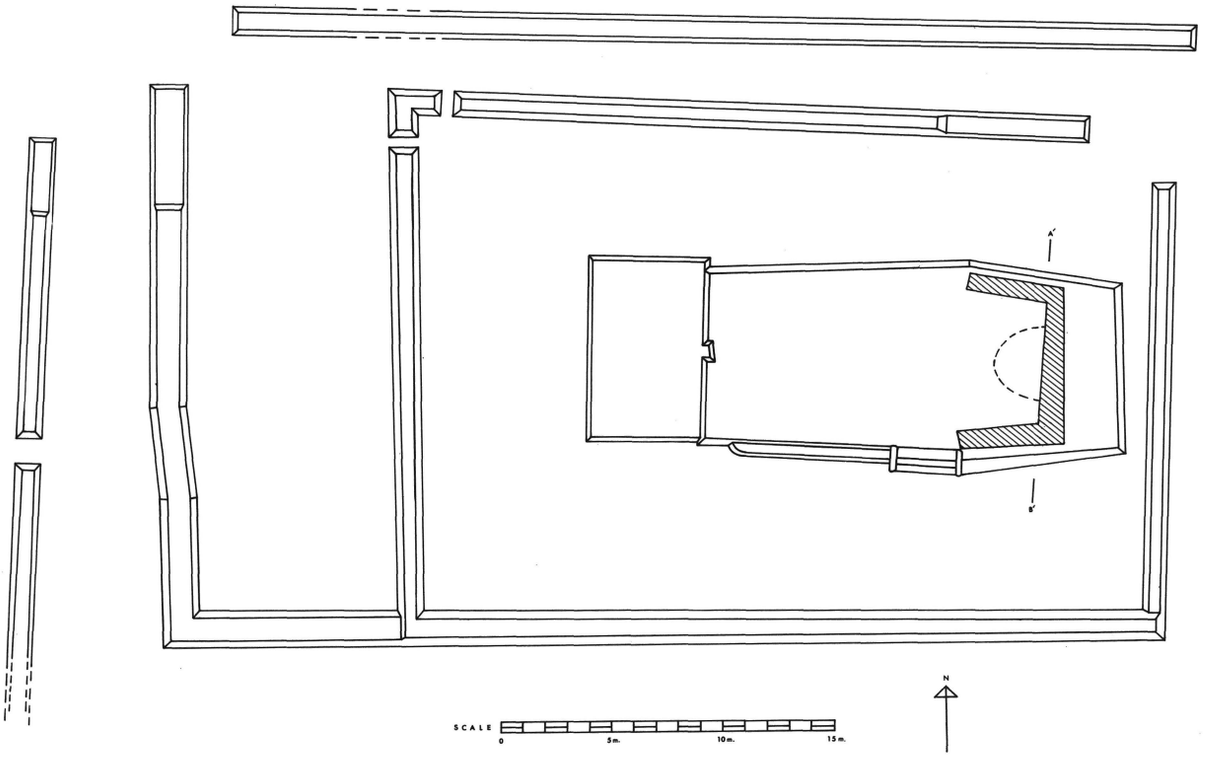


Fig. 58 Plan of Tancah Str. 71, the Spanish chapel. Drawing by Arlen F. Chase.

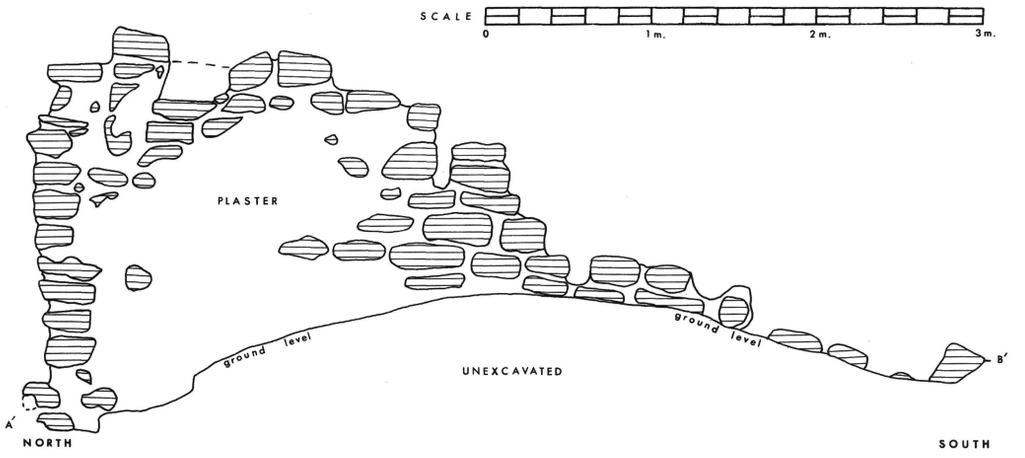


Fig. 59 North–south elevation of the altar area of Tancah Str. 71 prior to excavation. Drawing by Arlen F. Chase.

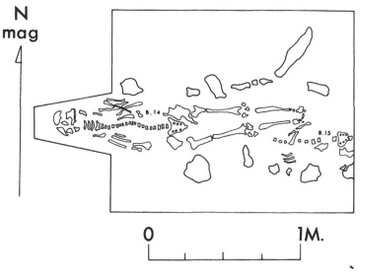


Fig. 60 Plan of Burials 14 and 15 from Tancah Str. 71.

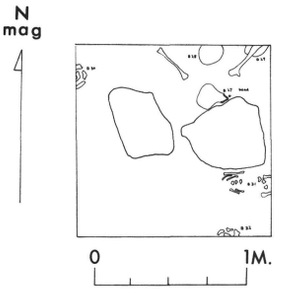


Fig. 61 Plan of Burial 27 from Tancah Str. 71 associated with a serpentine or jadeite bead.

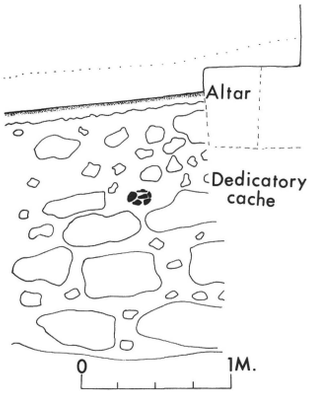


Fig. 62 North–south section of the altar area in Tancah Str. 71 showing the location of the dedicatory cache.

Fig. 63 Fragments of *Tituc Orange Polychrome: Camichin Variety* as found in Op. 84; vessel's surviving weathered fragments.

ial ground. Of particular note are the three rusted iron nails found just below the skeletons of Burial 14. Just a few meters west of this burial (inside the nave), a survival of the Pre-Conquest tradition was found in the form of a flexed figure (Burial 27) with a serpentine or jadeite bead in his mouth (Fig. 61).[13] Burial traditions are mixed here, and the physical anthropological evidence reflects the continuity of Late Post-Classic and Colonial traditions as well (see Table III).

The pit dug directly in front of the altar (Fig. 62) proved to be the most instructive in demonstrating the nature of the continuity between the Late Post-Classic and the Colonial components at Tancah. At 125 centimeters below datum in Operation 84, we encountered a centerline dedica-

[13] As late as the mid-eighteenth century, jadeite beads of presumed Pre-Columbian manufacture were still considered valued heirlooms. In a will dated 1764, Antonio Tamay, a Maya, left a "piedra verde" to his daughter as part of her inheritance (Archivo de Estado de Yucatan, Tierras Vol. 1, no. 14, Testament of Antonio Tamay, pueblo of Dzan, 17 October 1764; citation courtesy of N. M. Farriss).

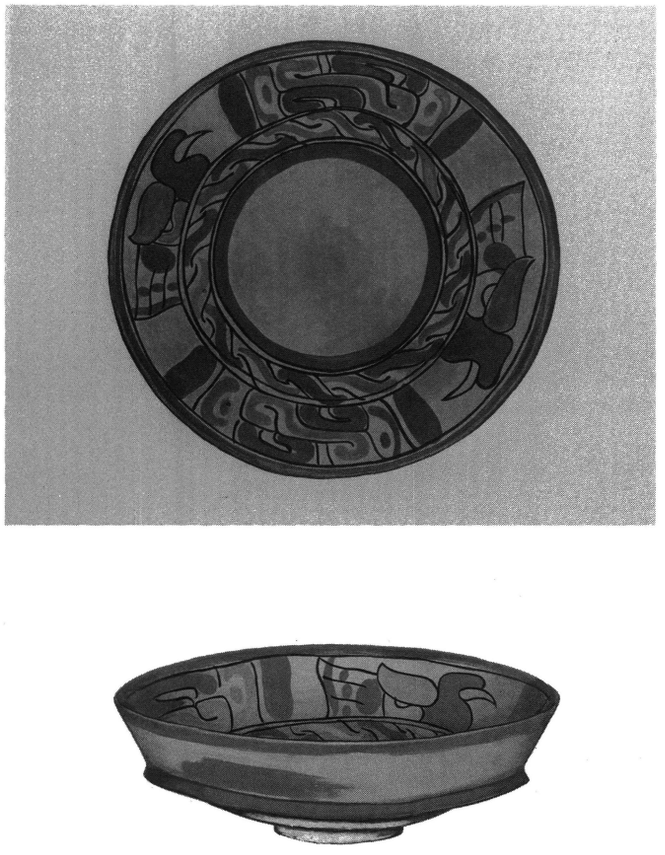


Fig. 64 Complete, non-weathered example of *Tituc Orange Polychrome: Camichin Variety* from Dzibilchaltun. Photo courtesy of the Middle American Research Institute, Tulane University.

tory cache consisting of a fragmented pottery vessel which Ball has identified as an example of *Tituc Orange Polychrome: Camichin Variety* (compare Figs. 63, 64). The discovery of this dedicatory cache raised two immediate questions. First, if the vessel pertained to the construction of an Early Colonial Period chapel, how could the A.D. 475–550 time period assigned to this type be explained? Secondly, the fragmented vessel was badly weathered before interment as a dedicatory cache, and if the vessel were an heirloom—which might explain its occurrence in a later context—one would expect it to have been kept in such a way that it would not have been subjected to such weathering. What, then, accounted for the vessel's extremely worn state?

The dedicatory cache in Structure 71 raises two possible interpretations as to when it was constructed, the first being that it is an Early Classic platform containing a contemporary cache that was incorporated into an Early Colonial chapel, and the second being that the chapel is a single-unit construction built during the Early Colonial Period with an Early Classic vessel as an offering. Because the three other pits into Structure 71, as well as the one that resulted in uncovering the cache, all indicate single-period construction, we must especially examine the evidence for the second possibility.

Analysis of the ceramic content of the four operations in Structure 71 indicates that the fill used in the construction of the platform derived from an Early Classic source, possibly a dump. Superficial examination of the cultural material alone would have suggested only a date no earlier than the Early Classic for its construction. Careful study of the ceramic lots from Structure 71, however, demonstrated that the lowest level contained worn Tulum Red sherds, raising the possibility that the fill of the Tancah chapel was a secondary deposit representing reverse stratigraphy. An Early Classic midden or an earlier building are possible sources for the loose fill used in the construction of the Tancah chapel; if so, scattered Late Post-Classic sherds would have been deposited on the surface of this Early Classic dump. As material from the midden or another source was collected for use as fill in Structure 71, its uppermost level, containing the Late Post-Classic sherds, would have been deposited first, forming the lowermost level of the chapel platform fill. Whatever the ultimate source of the fill, it is clear that it must date no earlier than the Late Post-Classic Period. Further supporting evidence is the fill technique employed in Structure 71—similar to that in Post-Classic Structure 42-1st—of using large boulders on end.

Such an explanation may account for the occurrence of Late Post-Classic sherds at the bottom of our pits of Early Classic fill. But what of the weathered Early Classic foundation cache? A possible sequence of events follows: the weathered and fragmented *Tituc Orange Polychrome* vessel may have been found by the builders of the Tancah chapel in an Early Classic dump, possibly the same one that produced the Early Classic fill used in the construction of the chapel itself. The fragmented and weathered Early Classic pot may have been recognized by the Colonial Maya builders as an "old" vessel[14] and buried, probably secretly, in the manner of a "pagan" offering. Although the precise circumstances of the Tancah chapel dedicatory cache can never be known, it must have been laid down during the Late Post-Classic–Early Colonial Period, as indicated by the Tulum Red sherds from the bottom levels of the chapel pits. This dedicatory cache clearly implies the survival of Pre-Conquest traditions in a Post-Conquest context, and is perhaps our most revealing example of the apparent developmental continuity of the Late Post-Classic to Early Colonial Period in the Tancah–Tulum zone.

Summary of the Early Colonial Component at Tancah

Excavation of Tancah Structure 71 produced data that strongly suggest that, in the Tancah–Tulum zone, the tran-

[14] Compare the worn condition of the Tancah *Tituc Orange Polychrome* with one originally buried in good condition from Dzibilchaltun (Figs. 63, 64).

sition from Pre-Conquest to Post-Conquest culture was a relatively smooth one. Basic construction techniques survived the arrival of the Spaniards despite the obviously new forms introduced. Pre-Conquest Maya burial practices survived into the Early Colonial Period, even within the confines of a consecrated Christian chapel (see Table III for a description of the burials), and Pre-Conquest ceramic traditions remained unchanged, notwithstanding the introduction of new imported wares, such as Majolica and Olive jar wares, which were not at all common in the Early Colonial levels at Tancah. The physical anthropological evidence seems to suggest a gradual mixing of Maya and Spanish traits, implying a genetic as well as a cultural mix (see Appendix II).

The archaeological evidence for continuity of Pre-Columbian architectural, ceramic, burial, and even religious traditions is not surprising, given the documentary evidence for minimal Spanish influence in the Tancah–Tulum region (see Chapter IV).

THE SEQUENCE OF STANDING ARCHITECTURE IN THE TANCAH–TULUM ARCHAEOLOGICAL ZONE

Although older platforms were found during the course of dismantling Structure 42, examples of standing architecture of the Tancah–Tulum zone date no earlier than the Terminal Classic Period; these are to be found at Tancah and at Xelha, ten kilometers to the north (Fig. 1). Chronological markers of the Terminal Classic/Early Post-Classic in architecture are the use of boot-shaped vault stones imbedded in rubble hearting (Fig. 65) combined with pyramidal bases and roof-combs (Fig. 66).[15] Similar in appearance to Puuc masonry of western Yucatan, the distinctive pecked masonry of this period contrasts markedly with the percussion-and-spall masonry of the Middle and Late Post-Classic Periods (Figs. 67, 68). Examples of both these traits can be found in Groups A and B at Tancah, particularly in Structure 6 (Fig. 67) and Structure 12 (Fig. 66), as well as Structure 1 (Figs. 68, 69).

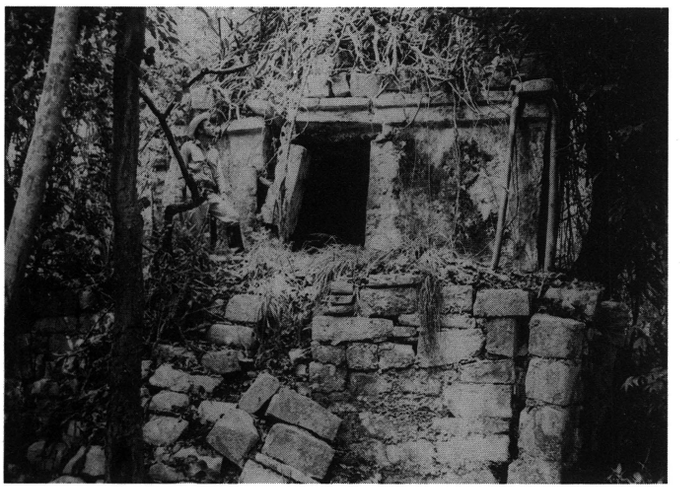
Fig. 65 Boot-shaped vault stone reused in the lower wall of Tancah Str. 10.

Fig. 66 Tancah Str. 12 prior to consolidation by I.N.A.H.

A structure partially destroyed by the modern highway cutting through Xelha reveals an inner building (Xelha Str. 26-Sub.) with stepped corbeled vaulting of pecked boot-shaped stones that suggests a Terminal Classic/Early Post-Classic date (Pl. 42). During the consolidation of this structure, carried out by the Mexican Government, it was found that Puuc Slate Ware sherds were imbedded in the fill, providing further evidence for the tentative dating of this building (Fernando Robles C., personal communication, 1977).

Evidence from the 1974 excavations indicates that Tancah Structure 44 dates from the Middle Post-Classic Period. Moreover, the mixing of reused Terminal Classic pecked masonry with an increasing use of percussion-and-spall masonry defines a stage intermediate between the exclusive use of pecked masonry of the Terminal Classic and the percussion-and-spall masonry of the Late Post-Classic. Combinations of these two types of masonry are found in several buildings near Structure 44, probably representing an area of Middle Post-Classic construction at the site. Ex-

[15] Tulum Str. 59 also has a roof-comb, although it was most probably built during the Late Post-Classic along with the rest of the site, an opinion also expressed by Lothrop (1924: 168–169).



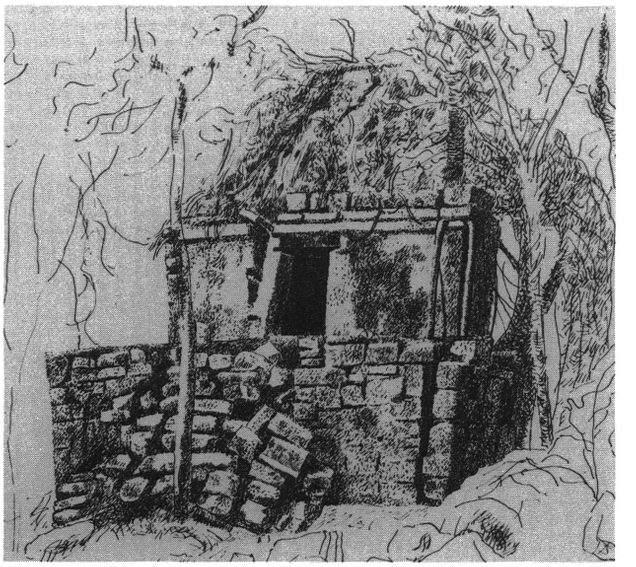


Fig. 67 Tancah Str. 6. The squat rectangular base with a single room supporting a roof comb is typical of Terminal Classic/Early Post-Classic architecture at Tancah. The use of pecked masonry dominates in this building. Photo courtesy of E. W. Andrews V; drawing of Str. 6 by K. Grootenboer.

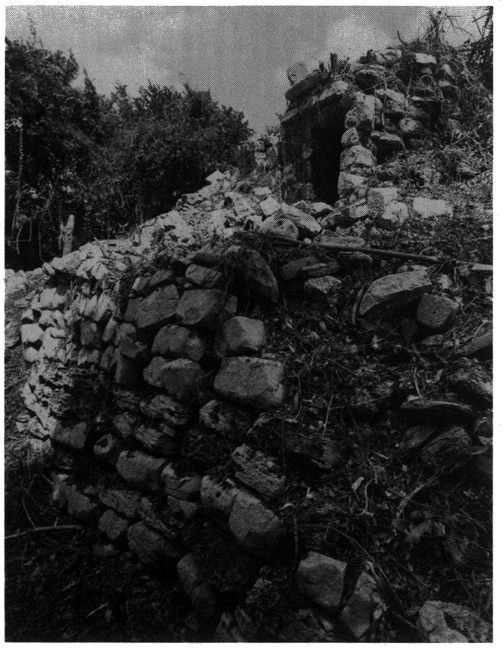


Fig. 68 Portion of the west façade of Tancah Str. 1, contemporary with Str. 44. The use of both pecked and percussion cut masonry appears here together: the lowest course of stone visible is pecked, the next percussion cut, and above that pecked again. Photo taken in January 1974.

Fig. 69 Room flanking the staircase of Tancah Str. 1 exhibiting pecked masonry of the Terminal Classic/Early Post-Classic Period. Note the lack of a recessed lintel. Photo taken in November 1973.

Fig. 70 Tulum Str. 1. Str. 1-Sub. extends underneath the staircase.

Fig. 71 Colonnade of Tulum Str. 1-Sub. embedded in the staircase of Str. 1, looking north.

cavation of these structures might clarify this tentative dating on the basis of masonry types. Unfortunately, none of these buildings contains a mural painting that could serve as a sensitive chronological marker.

Other examples of the long, low, range-type buildings of the Structure 44 type are not known at Tancah, but I have seen several at Xelha; these also presumably date to the Middle Post-Classic Period. The range-type architectural form was present in the region earlier in the Post-Classic, as is demonstrated at Tulum in Structure 1-Sub., which can be dated independently by mural-painting style and iconography to the Terminal Classic/Early Post-Classic Period (see Chapter III).

While Lothrop (1924: 169) and Sanders (1960: 227) assigned the columned "palace" exclusively to the Tulum or Late Post-Classic Period (Strs. 20, 21, 25), the fact that Structure 1-Sub. is distinguished by a colonnade (Figs. 70, 71) places this architectural trait as early as the Terminal Classic Period in this region. The colonnade of Structure 1-Sub. is reminiscent of those at Mitla in south central Mexico. Also reminiscent of Mitla are the inset panels above doorways, yet their distribution outside the East Coast suggests origins in eastern Yucatan; inset panels are found on Late Post-Classic buildings at Coba and Okop (Stromsvik, Pollock, and Berlin 1955: 173). The only other Maya site that possesses the inset panel with which I am familar is Topoxte in the Peten (Bullard 1970: 266).

Lothrop's (1924: 171) seriation of inset panels that touch the lower moldings (i.e., the articulated upper façade) as being earlier than examples that "are from 2 to 6

Fig. 72 Tulum Str. 16, also known as the "Temple of the Frescoes."

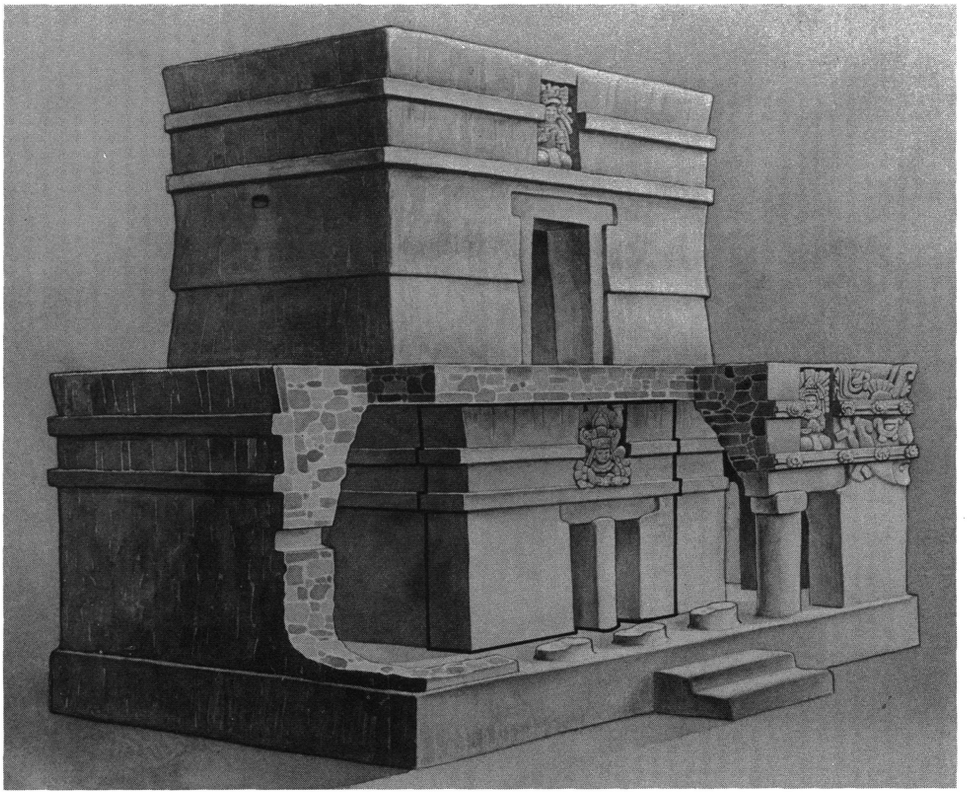


Fig. 73 Cutaway drawing of Str. 16 revealing the 3-in-1 organization of the building. The black outline indicates the location of the Pl. 37 rendering. Drawing by F. Dávalos.

Fig. 74 Tulum Str. 1. Note the space between the inset panel and molding.

inches [5 to 15.2 centimeters] *below* the molding" may indeed be correct, but if so, the earlier insets that touch moldings have a duration lasting from Terminal Classic times to as late as 1450, and Late Post-Classic buildings show both types of moldings occurring together. For example, the Late Post-Classic murals from Tulum Structures 5 and 16 are painted on buildings with insets both touching and not touching their moldings (Figs. 72, 73, 80), while those of Tulum Structure 1—painted with murals clearly derivative from those of Structures 5 and 16—have a space between them (Fig. 74), thus conforming to Lothrop's seriation. The small building on top of Tancah Structure 1[16] (Fig. 75) has an inset panel touching the molding; this is clearly a Late Post-Classic building complete with a "Diving God" relief sculpture affixed to a vertical niche cut into its molding. Buildings that are much earlier on the basis of their masonry techniques and mural painting style, belonging to the Terminal Classic/Early Post-Classic, also exhibit insets touching the moldings. Examples are Tancah Structures 6 (Fig. 67) and 12 (Fig. 66), as well as the Middle Post-Classic Tancah Structure 44 (Figs. 55–57).

The most distinctive architectural forms standing on the east coast of Yucatan are the latest and the most abundant, beginning *ca.* A.D. 1400 in the Tancah–Tulum zone. These structures are marked by the introduction of new construction forms and a dramatic increase in the quantity of those forms; the masonry technique is almost exclusively percussion-and-spall with occasional reuse of Terminal Classic pecked masonry that never exceeds ten percent of the total masonry content. Buildings are proportionally dwarfed (Figs. 75, 76), and flat ceilings[17] replace vaulted interiors,

[16] The pyramidal base of Tancah Str. 1, including two side rooms flanking the staircase, is, in terms of its masonry technique, a Terminal Classic/Early Post-Classic building (Figs. 68, 69).

[17] The beam-and-mortar roof has been shown not to be chronologically diagnostic in the Maya area, appearing at Piedras Negras (Satterthwaite 1938; see discussion in Andrews IV 1943: 67–72). Nevertheless, it does seem more prevalent on the East Coast during the Late Post-Classic.

Fig. 75 The Late Post-Classic addition to Tancah Str. 1. An almost completely effaced Diving God sculpture occupies the vertical niche above the door. Photo taken in 1973.

Fig. 76 A Late Post-Classic "shrinelike" structure at Xelha. Photo taken in March 1975.

Fig. 77 View of Tulum Str. 1 (Castillo) in the background behind Str. 16 (Temple of the Frescoes). Photo taken in February 1973.

although vaulting is still found during this late period. It is noteworthy also that the physical situations of the new Late Post-Classic architecture differ from those of the two preceding phases of the Post-Classic Period. Whereas Terminal Classic/Early Post-Classic and Middle Post-Classic structures are situated inland from the sea, Late Post-Classic buildings are more often than not prominently situated on high ground overlooking the sea. Other common locations for Late Post-Classic architecture are the beaches and the rocky promontories that jut out into areas difficult for coastal navigation, such as at Punta Tulsayab, just north of Tancah (Figs. 2–4). An exception to the tendency for Terminal Classic/Early Post-Classic and Middle Post-Classic structures to be built back from the sea is Structure 1-Sub at Tulum (Figs. 70, 71), which, although constructed on a bluff facing the sea, had a low profile which would have been considerably less noticeable from the sea than the prominent, vertically oriented Late Post-Classic addition to that structure commonly referred to as the Castillo (Figs. 70, 77).

A new architectural form introduced during the Late Post-Classic is the so-called shrine-within-a-shrine complex or the three-in-one or four-in-one building. This type consists of smaller and smaller buildings encapsulated by larger buildings and is best represented by Structure 16 at Tulum (Figs. 72, 73); other examples are Tancah Structure 10 (Fig. 47) and Xelha Structure A (Figs. 78, 85).[18] The Tulum, Tancah, and Xelha examples of this building type were erected as one unit because the layering of larger and larger encapsulating buildings seems to have been a single-phase construction form, rather than the result of general accretions. An interesting variation of the three-in-one structure was recently investigated at Cancun, north of the Tancah–Tulum region, where a small model temple found in the innermost room implied a concept of increasing miniaturization as one proceeds inward, rather like the decreasing inner space of a gastropod shell (Pablo Mayer, personal communication, 1977). This is all the more remarkable when one considers that a common characteristic of these single-period composite constructions is that they are all too small to have functioned as shelters for any human activity—domestic, administrative, or religious—unless one follows Le Plongeon (1879), who argued for a race of dwarfs as the architects of East Coast buildings. These dwarflike buildings do appear to be physically functionless, but symbolically meaningful, structures, when considered in the contexts of East Coast religious thought.

[18] Unlike the other buildings of this type, Xelha Str. A was clearly not built during one period. Its inner room has twenty-seven layers of mural paint, the first of which bears murals dating to the Terminal Classic/Early Post-Classic and the twenty-seventh of which is Early Colonial.

Fig. 78 Xelha Str. A, which bears 27 layers of mural painting from the Terminal Classic/Early Post-Classic to the Early Colonial Periods (see Figs. 85–87). Photo taken in April 1975.

Late Post-Classic architecture in the Tancah–Tulum zone is also marked by the proliferation of small shrine-like structures; these are often isolated from other buildings and are characterized by a flat roof and single doorway, sometimes with an associated small "pineapple offering." Such shrines are situated on rocky points, inlets, or reef-protected bays, and it is probable that they served as coastal navigation markers, as lighthouses do today. These structures, much too small to allow even the small-statured Maya to stand in them, are totally absent during earlier periods.[19]

An innovative construction technique for filling in platform areas was introduced at the beginning of the Middle Post-Classic Period and became common during the Late Post-Classic Period. The fill of the Terminal Classic/Early Post-Classic Period consists of loose rubble stones measuring up to thirty centimeters in diameter at the bottom layers, and gradually becoming pebble-sized just under the stucco floor. Middle and Late Post-Classic platform fill, however, is characterized by the use of enormous boulders placed on end which would quickly fill in an area; at this time there is no decreasing size of fill stones as one approaches the stucco floor.

New architectural features include the battered basal mouldings and outward-sloping walls shown in Figures 77 and 79. Upper façades with vertical niches enframing high-relief figural sculpture are introduced during this period (Figs. 74, 80, 81, 82), and corner masks become new elements of architectural design (Figs. 72, 73; Pl. 31). Most characteristic of Late Post-Classic architectural sculpture are representations of the so-called Diving God, conspicuously shown in a central niche over the entrance to a building (Figs. 72, 73, 80, 81, 82).

The major architectural form belonging to the Early Colonial Period is the Tancah chapel which, along with the

Fig. 79 View of Tulum Str. 5 from the south. The twisted aspect of the building is the result of a slump. Photo taken in February 1973.

[19] It is possible, of course, that earlier navigation aids existed and were subsequently destroyed or replaced. The sum of the current evidence, however, suggests that earlier periods were not as openly committed to seaborne trade.

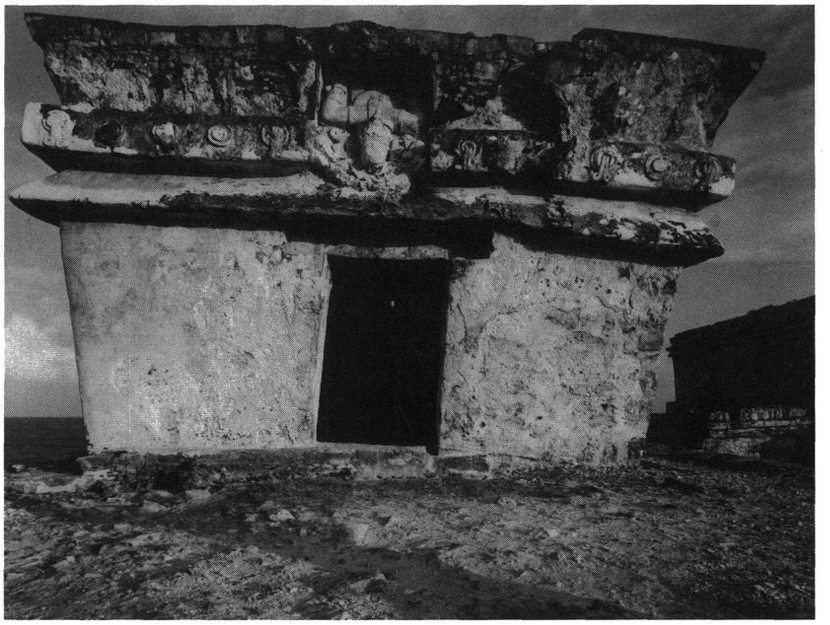


Fig. 80 West façade of Str. 5 showing the use of negative batter in the lower walls and the Diving God in the vertical niche above the door. Photo taken in February 1972.

Fig. 81 Diving God sculpture in the vertical niche over the entrance to the inner room of Tulum Str. 25. Photo taken in January 1973.

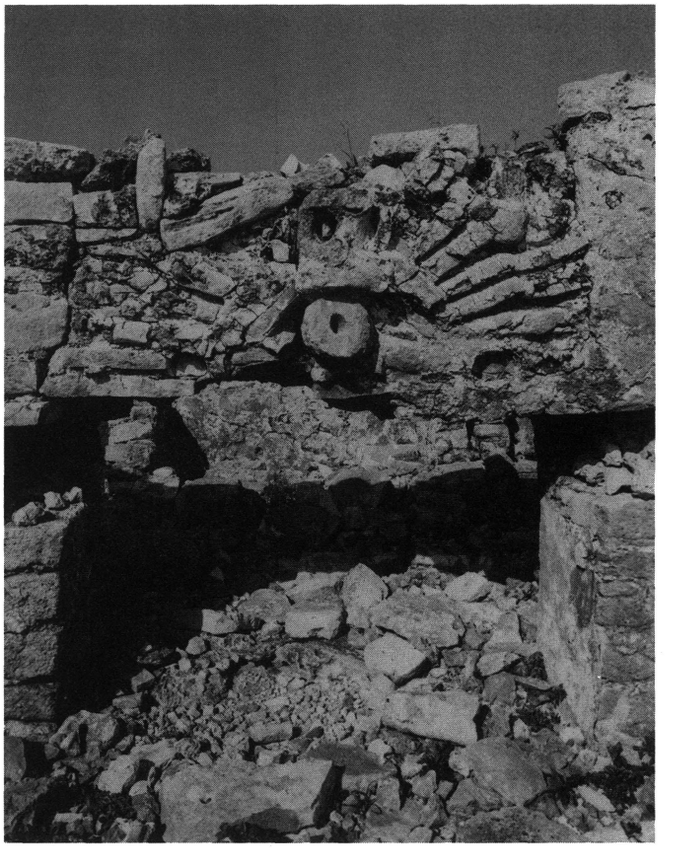


Fig. 82 Stucco has fallen from the stone armature of this Diving God relief in a niche over the door leading to the inner room of Tulum Str. 20. Photo taken in February 1973.

Spanish chapel at Xcaret (Andrews IV and Andrews 1975), represents a new architectural feature along the east coast of Quintana Roo. Notwithstanding the innovation in shape, however, these chapels were built using thoroughly Post-Classic Maya building techniques. A possible *casa cural*, discovered near the Tancah chapel, may represent another new Post-Conquest architectural form for the Tancah–Tulum zone. Evidence in Structure A at Xelha suggests that Post-Conquest reuse of Late Post-Classic architecture was common on the East Coast, and a Colonial settlement in the western section of Tancah is evidence that domestic architectural forms continued essentially unchanged from the Late Post-Classic into the Early Colonial Period. But, in response to increasingly hostile *corsarios luteranos*,[20] there is a marked tendency for Early Colonial architecture to be built inland, away from the sea.

Summary of the Standing Architectural Sequence

The extant architecture of the Tancah–Tulum region represents about six hundred years of building activity. Structures dating from *ca.* A.D. 1000 still remain at Tancah and Xelha. They have many of the traits associated with the Puuc architecture of western Yucatan: roof-combs, boot-shaped vault stones, and distinctive pecked masonry being among the most salient. Although the surviving Early Post-Classic architecture may be seen as an innovation in the area (we do not have, however, examples of earlier standing architecture with which to contrast it), it is clear that the buildings of the Middle Post-Classic introduced no new architectural forms and that many Middle Post-Classic buildings were, in fact, constructed using Early Post-Classic masonry from abandoned structures. Percussion-and-spall masonry comes in at this time to fill gaps in buildings not constructed entirely of reused earlier masonry. In contrast to the previous period, the Late Post-Classic is a time of great innovation and architectural activity, when new forms such as the shrine-within-a-shrine structure, small shrine-like coastal markers, flat ceilings, battered basal moldings, outward sloping walls, and architectural sculpture are introduced into the region. The last building phase is represented by the Spanish chapel at Tancah, a totally new architectural form erected, however, using Late Post-Classic building techniques.

[20] Chapter IV includes discussion of Early Colonial seaborne pirate raids along the east coast of Yucatan.

TABLE I. CHRONOLOGY OF THE TANCAH–TULUM REGION*

Early Colonial	A.D. 1517–1668
Late Post-Classic	A.D. 1400–1517
Middle Post-Classic	A.D. 1200–1400
Early Post-Classic**	A.D. 1000–1200
Terminal Classic	A.D. 770–1000
Late Classic	A.D. 650–770
Middle Classic	A.D. 550–650
Early Classic	A.D. 250–550
Terminal Pre-Classic	75 B.C.–A.D. 250
Late Pre-Classic	300 B.C.–75 B.C.

*This regional chronological chart was formulated after much stimulating discussion and debate with Joseph W. Ball. While my primary data were murals and architecture, Ball's were ceramics. Not surprisingly, we each see different rates of change in this region, a difference that is apparent in comparing my ordering of events at Tancah–Tulum as expressed in Chapter IV with Ball's as put forth in Appendix I.

**In the following discussion I have referred to the A.D. 770 horizon with the somewhat clumsy designation "Terminal Classic/Early Post-Classic Period" because I see no perceptible change in murals and architecture of the region during this time.

TABLE II. TANCAH STRUCTURE 42 BURIALS: SUMMARY BY PROVENIENCE, CHRONOLOGICALLY ORDERED[1]

Provenience	*Burial*		*Associated Objects*	*Remarks*[3]	*Direct Dating Evidence*[4]
	number	*status*[2]			
Str. 42-3rd	1a[5] 1b (Fig. 26)	(D) 1 male (P) (D) 1 female (P)	2 inverted vessels 1 apple green jadeite bead	both flexed, heads to E; both young adults.	(C) Early Classic
Str. 42-3rd	3a 3b (Fig. 27)	(I) 2 individuals (P)	1 inverted vessel 1 piece pyrite mirror mosaic 1 obsidian blade, streaky grey 1 sting ray spine 1 worked bivalve shell	(CS) flexed, heads to W; age: 5–9 yrs.	(C) Middle Classic
Str. 42-3rd	4a 4b (Fig. 29)	(I) 2 individuals (S) male?	1 inverted vessel 1 greenstone "bib-and-helmet" style pendant 1 jade bead 1 piece worked chert	(CS) jumbled bones oriented N–S; both young adults.	(C) (A) Middle Classic
Str. 42-3rd	6 (Fig. 33)	(I) single (P)	1 inverted vessel 1 large vessel fragment small marine shells 1 sting ray spine fragment	flexed, head to N; age: young middle adult.	(C) Middle Classic
Str. 42-3rd	10 (Fig. 35)	(I) single (P?)	1 inverted vessel	(CS?) orientation not evident; skull trepanated; age: young adult.	(C) Middle Classic
Str. 42-3rd	2 (Fig. 36)	(I) single (P?)	1 inverted vessel 1 sting ray spine fragment	flexed, head to E; too fragmentary to determine sex or age (skeleton not analyzed by Saul).	(C) Middle Classic
Str. 42-2nd	8 (Fig. 38)	(D?) single (P?)	1 vessel	orientation not evident; age: small child (2½ yrs).	(C) Late Classic
Str. 42-2nd	9 (Fig. 39)	(D) single (P)	1 vessel	flexed, head to E; age: 5 yrs.	(C) Terminal Classic
Str. 42-2nd	7a–g (Figs. 41, 42)	(I) mass (S?) 7 individuals	2 vessels 1 greenstone tubular bead 1 worked spondylus shell 1 sting ray spine	7 individuals; identifiable are: 2 small children (4–5 yrs), 1 female, 1 young adult, 1 acromegaly.	(C) Terminal Classic/ Early Post-Classic

[1] I am grateful to my colleague, Robert J. Sharer, for help in preparation of Tables II and III. The summary presentation of burial data follows the layout Sharer devised for his Chalchuapa report (Sharer 1978). I have adopted his format here because I think it well suited to a clear summary presentation of the Tancah burial data. Burial 5, clearly a secondary burial, was so fragmentary that it could not be included as data.

[2] (D) = Dedicatory; (I) = Intrusive; (P) = Primary; (S) = Secondary.

[3] (CS) = cranial shaping; (DD) = dental decoration.

[4] (C) = pottery grave furniture (described in Chapter II and Appendix I); (A) = artifact grave furniture (described in Chapter II).

[5] Letter designations refer to individuals within the same burials.

TABLE III. TANCAH STRUCTURE 71 BURIALS: SUMMARY BY PROVENIENCE[1]

Burial number	*Burial status*[2]	*Associated Objects*	*Remarks*[3]	*Direct Dating Evidence*[4]
11a[5] 11b	(I) 2 individuals (P)	none	dorsal, head to W, under nave floor.	none
12a 12b	(I) 2 individuals (P)	none	dorsal, head to W, under nave floor.	12a: stain (probably cupric) on right parietal at bregma.
13	(I) male? (P)	none	(CS), dorsal, head to W, under nave floor.	none
14 (Fig. 60)	(I) male (P)	3 rusted iron nails	dorsal, head to W, under nave floor. This individual was possibly of mixed population affinity: very marked shovel shaped incisors and small enameloma between distal roots of upper left M′ suggest Maya affinity although seems to lack alveolar prognathism and receding chin associated with the Maya; cranial index: 79.	none
15 (Fig. 60)	(I) male (P)	none	dorsal, head to W, under nave floor; robust, no osteoarthritis.	none
16	(I) male (P)	none	dorsal, head to W, under nave floor; very robust middle adult, slight osteoarthritic lipping of thoracic vertebrae.	none
17	(I) male (P)	none	(CS), dorsal, head to W, under nave floor; shoveled lower lateral incisor and (CS) are suggestive of Maya affinity.	none
18a 18b	(I?) 2 individuals (P) 1 male	none	18a: (DD), dorsal, head to W, under nave floor; shoveled canine and possible filing and/or wear suggest Maya affinity.	none
19	(I) male (P)	none	dorsal, head to W, under nave floor.	none
20	(I) individual (P)	none	dorsal, head to W, under nave floor; age: under 18 (based on incomplete dental roots).	none
21a 21b	(I) 2 individuals (P)	none	21a and b: dorsal, head to W, under nave floor. 21a: age between 9 mos and 3 yrs. 21b: age 7–9 yrs.	none

[1] Osteobiographical information supplied by Frank P. Saul.

[2] (D) = Dedicatory; (I) = Intrusive; (P) = Primary; (S) = Secondary.

[3] (CS) = cranial shaping; (DD) = dental decoration.

[4] (A) = artifact grave furniture (described in Chapter II); (C) = ceramic grave furniture.

[5] Letter designations refer to individuals within the same burial.

Burial number	*status*	*Associated Objects*	*Remarks*	*Direct Dating Evidence*
22	(I) female (P)	none	dorsal, head to W, outside Str. 71 to S; age: adult; right preauricular sulcus indicates at least one pregnancy.	none
23	(I) male (P)	none	dorsal, head to W, under nave floor; age: adult.	none
24	(I) male? (P)	none	dorsal, head to W, under nave floor; age: 15–18 yrs (based on non-union of ilium); ankylosed C2 and C3 vertebrae; Klippel-Feil Deformity Syndrome.	none
25	(I) male? (P)	none	dorsal, head to W, under nave floor; age: 15–20 yrs (based on non-union of distal tibia/distal femur, proximal tibia, proximal ulna).	none
26	(I) male? (P)	none	dorsal, head to W, under nave floor; age: under 18 (based on non-union of ischium, caracoid, and distal metatarsals).	none
27 (Fig. 61)	(I) male? (P)	1 jade bead	flexed, head to W, jade bead in mouth; age: under 18 (based on non-union of ilium and distal metatarsals and slight dental wear).	none (A)
28	(I) female (S?)	none	orientation not evident; age: young adult (based on lack of tooth wear).	none
29	(I) male (S?)	none	orientation not evident; age: middle adult (based on tooth wear).	none
30	(I) male (S?)	none	orientation not evident; age: young adult (based on incomplete roots of lower second molar).	none
31	(I) female? (P)	none	dorsal, head to W, under nave floor; age: under 18 yrs (based on non-union of distal humerus).	none
32	(I) female? (P?)	none	orientation not evident; age: under 18 yrs (based on non-union of distal humerus).	none
33	(I) male (S?)	none	orientation not evident; age: not evident.	none

CHAPTER III

The Developmental Sequence of the Tancah–Tulum Mural Tradition

THE TANCAH–TULUM MURAL TRADITION exhibits a more rapidly changing developmental sequence than those of architecture or ceramics. While ceramics significantly change twice and architecture three times during the roughly eight hundred years of the Post-Classic and Early Colonial Periods, mural painting undergoes four distinctive stylistic and iconographic modifications of differing degrees. Developments in mural style and iconography occur at the beginning of the three subdivisions of the Post-Classic Period from A.D. 770–1517: Terminal Classic/Early Post-Classic, Middle Post-Classic, and Late Post-Classic; the fourth development coincides with the introduction of the Early Colonial Period, lasting until 1668 when the Tancah–Tulum region was officially abandoned by all colonial Spanish settlements.[1]

Although we know that architecture and ceramics had long, uninterrupted histories from the Late Formative to the Early Colonial Periods, the earliest extant murals from the Tancah–Tulum zone date to the Terminal Classic/Early Post-Classic Period. This is not to say that mural painting was not practiced earlier; indeed, Late Formative Structure 42–4th was painted red (Fig. 11), and it is probable that figurative painting at Tancah was at least as old. However, in the absence of earlier mural styles, I will begin with the earliest one surviving in the region, which, not coincidentally, is found on the earliest standing architecture. What follows is a discussion of the chronological implications of the style of the Tancah–Tulum mural tradition as we know it, after which the iconography of that tradition is examined with a view to determining its chronological implications.

A DEVELOPMENTAL SEQUENCE OF MURAL STYLE

The style of the earliest murals in the Tancah–Tulum region, that of the Terminal Classic/Early Post-Classic Period, is best represented by the Tancah Structure 12 mural (Fig. 83, Pls. 6, 7). Large, flat color areas of blue, red, and ochre are arranged on a plain stucco background and are outlined with heavy black lines measuring from 3–6 millimeters in thickness. The drawing of the figures is hesitant and awkward and shows a misunderstanding of how the parts of human anatomy function. There is no consistent manner of anatomical distortion for a particular artistic effect, as is evident, for example, in the Late Post-Classic murals from Tulum. A case in point can be seen in Plates 6 and 7, where all the arms, depicted out of proportion, seem to grow out of the neck area; this is particularly evident in the drawing of the maize deity shown in the center of the mural. Unsureness of line is especially noticeable in the standing figure immediately to the left of the seated maize figure, where two tentatively drawn outlines are visible, below the outstretched arm in front of the figure, and behind his thighs (Pl. 6). Also indicative of this amateurish painting style are the uneven outlines of the blue, ochre, and red horizontal base bands.

In general terms, the murals of Tulum Structure 1-Sub. (Fig. 84, Pls. 13–21)[2] share the formal characteristics (large polychrome areas outlined by black lines depicting processional figures) and poor draftsmanship of Tancah Structure 12. The Tulum Structure 1-Sub. murals, however, have a more linear treatment than the painting from Tancah Structure 12. The flat colored areas tend to be filled in with wide, hesitantly drawn lines, as shown in Plates 13–20, but these interior lines are altogether different from those in the Late Post-Classic murals from Tulum. These differences are particularly evident on two counts: first, the thickness of the interior lines (up to 7 millimeters, as opposed to 2.5 millimeters in the Late Post-Classic murals) and, second, their hesitant awkwardness. Variations in the Structure 1-Sub. murals can be seen as lighting conditions varied. Where paintings would have been viewed in almost full light (the area now covered by the staircase of Structure 1 [Figs. 70, 71, 84; Pls. 13–21]), the black interior and framing lines are relatively thin, averaging 4 millimeters. But in the murals of the side rooms, deprived of direct

[1] The documentary evidence for the abandonment of the Tancah–Tulum region at this time is discussed in Chapter IV.

[2] Consisting of three distinct painting layers, which were probably all executed within a relatively restricted time period, the Str. 1-Sub. murals discussed here are from the third layer, the only one surviving in good enough condition to make anything of its style.

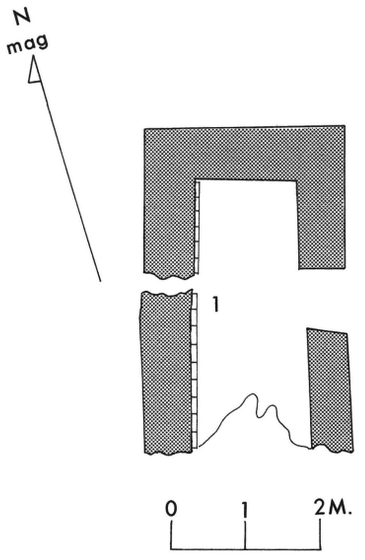


Fig. 83 Plan of Tancah Str. 12. The line offset from west wall shows the location of the murals (Pls. 6, 7).

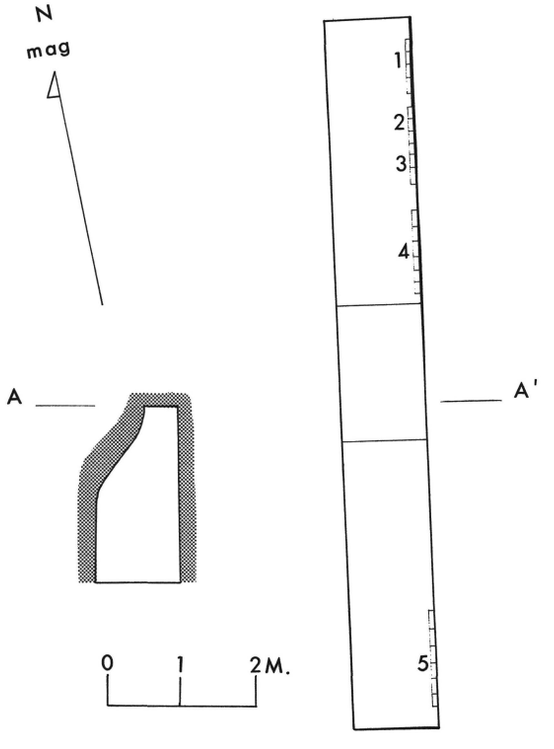


Fig. 84 Plan of Tulum Str. 1-Sub. Numbers offset from the east wall show the approximate location of the murals (Pls. 13–22).

illumination, the interior lines are eliminated, and the large color areas are bounded by outlines averaging 8 millimeters wide, so that the images would be more visible in the dim light of the lateral chambers (Fig. 84, Pl. 22). In a like manner, the simplified colored areas that are devoid of interior lines and bounded by the thick outlines in the mural of Tancah Structure 12 may be a stylistic adaption to the dim interior light.[3]

An exception to the generally inferior artistry associated with the Terminal Classic/Early Post-Classic paintings is the Diving Jaguar mural recorded on Structure A at Xelha during a preliminary survey of the site (Figs. 85–87; Pls. 44, 45). Although the diving figure itself lacks the heavy black outlines of the murals in Tancah Structure 12 and Tulum Structure 1-Sub., the formal arrangement of large flat polychrome areas against a plain stucco ground associate it securely with Terminal Classic/Early Post-Classic murals of the Tancah–Tulum region. Yet, this Xelha painting exhibits a sureness of line and form that suggests the hand of an artist whose training and skill exceed those of the Tancah and Tulum muralists of the Terminal Classic/Early Post-Classic. A richer palette is employed as well: cerulean blue, ochre, two reds, white, and purple, as opposed to simpler red, ochre, blue, and black at Tancah and Tulum.

Another skillfully executed mural is associated with the Puuc-like structure (Str. 26-Sub.) exposed at Xelha during the course of building the new highway (Pls. 42, 43). Slate ware sherds were found with the building's fill (F. Robles C., personal communication, 1977). Birds consisting of large, flat areas of red and ochre, that are bounded by well-controlled heavy black outlines 3–6 millimeters thick and arranged on a plain stucco ground, illustrate the Terminal Classic/Early Post-Classic style at Xelha. Enframing the scene of birds in flight are square cartouches measuring 60 centimeters on a side; two of them have been exposed. So excellent is the draftsmanship in this painting that it stands—along with the mural of Xelha Structure A—in marked contrast to the inferior murals at Tancah and Tulum, which were executed at the same time. Judging from the quality of the paintings from Xelha that have been recorded, it would seem that, in terms of mural painting, Xelha was more of a generative center than Tancah and Tulum during the Terminal Classic/Early Post-Classic Period.

Traces of Terminal Classic/Early Post-Classic mural style were also revealed in 1974 when the so-called Templo de las Pinturas at Coba was excavated. Remains of the first layer of painting on the walls at the base of the "Pinturas" staircase depicted processional figures, the lower fragments of which survive in sufficient detail to suggest that they were painted in the Terminal Classic/Early Post-Classic mural style of the Tancah–Tulum region (Fig. 90). A comparison of a lower leg fragment from Structure 1-Sub. at Tulum (Pl. 15) points to the stylistic affinity between the two, but the Coba example seems even more crudely drawn than the Tulum fragments, suggesting that Coba's location, farther from the generative influence of Xelha during the

[3] Analogous stylistic alterations, according to differing lighting conditions of interior vs. exterior room, are seen at Teotihuacan as well. There, thinner, more delicate lines were restricted to portico paintings, open to daylight, whereas the same design in a dimly lighted inner room was formed by relatively heavy lines (Miller 1973a: 54–56).

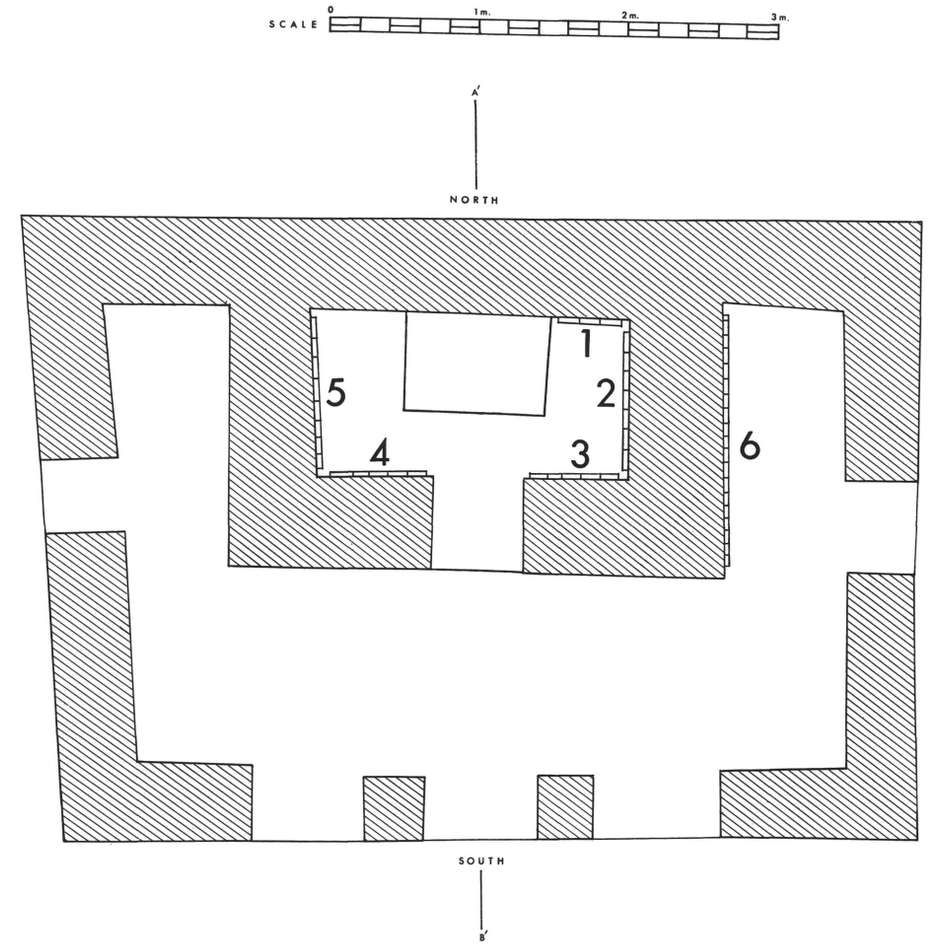


Fig. 85 Plan of Xelha Str. A showing the location of the murals (Pls. 44–47). Drawing by Arlen F. Chase.

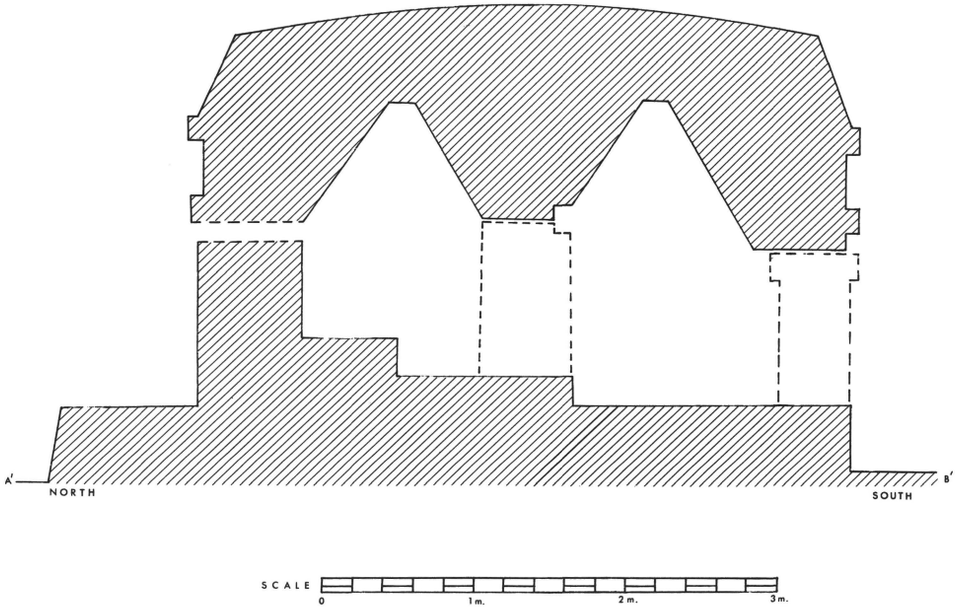


Fig. 86 Section of Xelha Str. A. Drawing by Arlen F. Chase.

Fig. 87 Elevation of the east wall of the inner building of Xelha Str. A showing the location of Mural 6 (Pl. 45).

Early Post-Classic, may explain its more provincial painting style.

The Middle Post-Classic murals of the Tancah–Tulum tradition represent a modification of the preceding style. Perhaps the most obvious stylistic change of this succeeding period involves a reduction in scale and an adaption of a more linear manner of rendering figures. Such a mode of representation is illustrated in the murals from the first painted stucco layer of Tancah Structure 44 (Fig. 88; Pls. 8–12), where the scale reduction and more linear treatment are evident when contrasted with the murals of the Terminal Classic/Early Post-Classic Period.

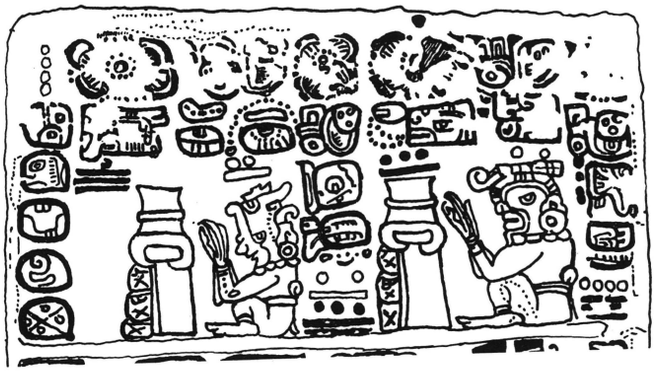


Fig. 89 Gods E and C from the Codex Madrid, p. 15.

Fig. 90 Painting superimposition at Coba's Templo de las Pinturas. The thick lines characteristic of the Terminal Classic/Early Post-Classic style of the East Coast are covered by a layer of painted stucco showing the thinner lines forming squares characteristic of the East Coast's Middle Post-Classic style.

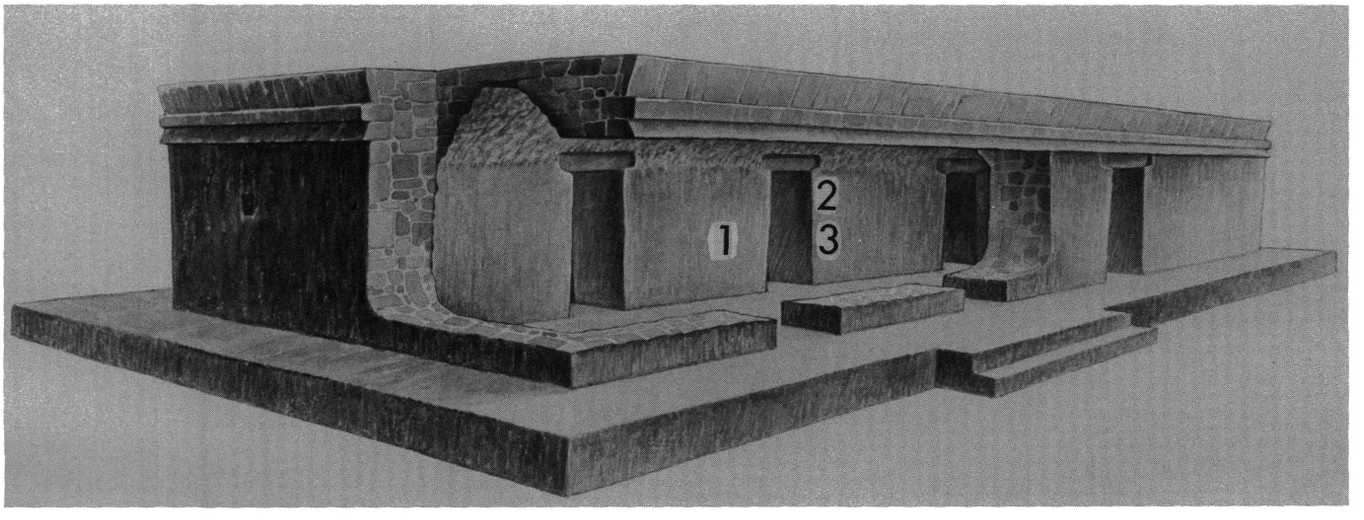


Fig. 88 Cutaway rendering of Tancah Str. 44 by F. Dávalos showing the location of the murals in Room 1. Mural 1 (Pls. 8, 9) is to the left of the door, and murals 2 and 3 (Pls. 10–12) are to the right. The two lower steps should be continued around the entire structure forming a three-tiered terrace as indicated in Figs. 10 and 19.

The painted surface in Structure 44 was segmented into vertical and horizontal divisions reminiscent of the page layout that is typical of Maya codex painting. The crude application of the blue and red colors that overlap onto black outlines of the main design is so similar to that of the Codex Madrid that I call this the "codex-style" (Fig. 89; Pls. 8–12).[4] There is good evidence to suggest that the entire east wall of Room 1 (Fig. 88) was painted anciently in this segmented, codex-style manner. Although only three fragments of the original mural are now visible, showing black outlines painted directly on plain stucco with areas of blue and red, there are indications that more of the original painting survives underneath the protective layer of calcium carbonate that now encrusts the wall.

Because the secondary ceramic associations in the fill of Structure 44 and the architectural and masonry styles point to a Middle Post-Classic date for the construction of the structure, and, since it is the first painting layer on the wall, the mural style of these paintings is at least that early. Judging from their evolution from the preceding mural style, exemplified by Tancah Structure 12, I date the Structure 44 murals to the latter part of the Middle Post-Classic Period or *ca.* A.D. 1350. Although we only have Tancah Structure 44 and its murals to go on, I would tentatively suggest that the Codex Madrid also dates to this period.

The sequential relationship between the painting style of Terminal Classic/Early Post-Classic (Tancah Str. 12 and Tulum Str. 1-Sub.) and that of Middle Post-Classic (Tancah Str. 44) is also evident at Coba, located 40 kilometers northwest of Tulum. In the murals newly discovered there by I.N.A.H., we see on one wall the Terminal Classic/Early Post-Classic style of Tancah–Tulum directly superimposed by a painting layer executed in the Middle Post-Classic style of the East Coast (Fig. 90).

The next development in mural painting in the Tancah–Tulum region comes as a radical innovation. Although both Middle and Late Post-Classic mural styles refer to codex illumination in scale and subject matter, a comparison of a Chaac from Tancah Structure 12 (Pl. 6) with one from the south corridor of Tulum Structure 16 (Fig. 91; Pl. 36) illustrates the unexpected changes found in Late Post-Classic murals.[5] The post–1400 murals of Tulum Structure 16 (Fig. 91; Pls. 30–33, 37–40) and Structure 5 (Fig. 92; Pls. 28, 29) are the finest examples of mural painting in the region and are stylistically unrelated to the earlier paintings.[6] They are also the richest in terms of artistic complexity. The control of draftsmanship and the intricate painting technique, probably involving the use of bird feather

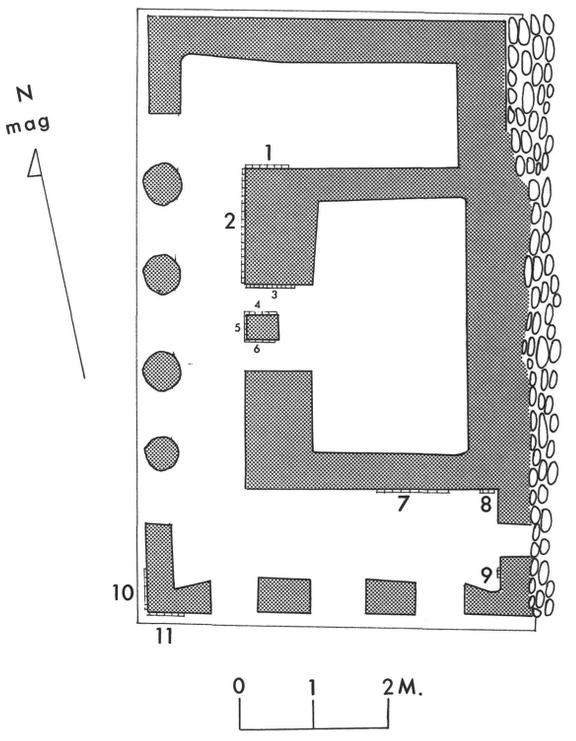


Fig. 91 Plan of Tulum Str. 16 showing the locations of the murals (Pls. 31–40, Figs. 93, 94).

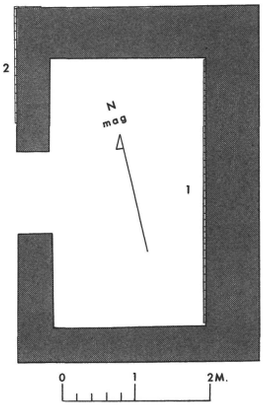


Fig. 92 Plan of Tulum Str. 5 showing the locations of the murals (Pls. 25–29).

[4] As mentioned earlier, the murals of Tancah Str. 44 also invoke stylistic and iconographic comparisons with the Codex Paris.

[5] An exception to this can be seen in the south colonnade of Str. 16 where a painted grafitto shows a Janus-like head (Figs. 93, 94).

[6] Although I have here placed the Tulum Str. 16 and Str. 5 murals in the same period, there are differences between the style and iconography of the murals in the two buildings that may indeed have chronological implications. The most obvious differences are those of scale: the figures of the interior Str. 5 murals are two to three times as large as those depicted on Str. 16. But scale differences may be purely a function of different lighting conditions rather than of the same workshops painting at different times or different workshops painting at the same time. Nevertheless, because of the subtle differences between the paintings in both buildings, I suspect that the murals of Str. 5 are, in fact, later than those of Str. 16, but not more than fifty years.

Fig. 93 Janus head shown in Mural 9, Tulum Str. 16. See Fig. 91 for location.

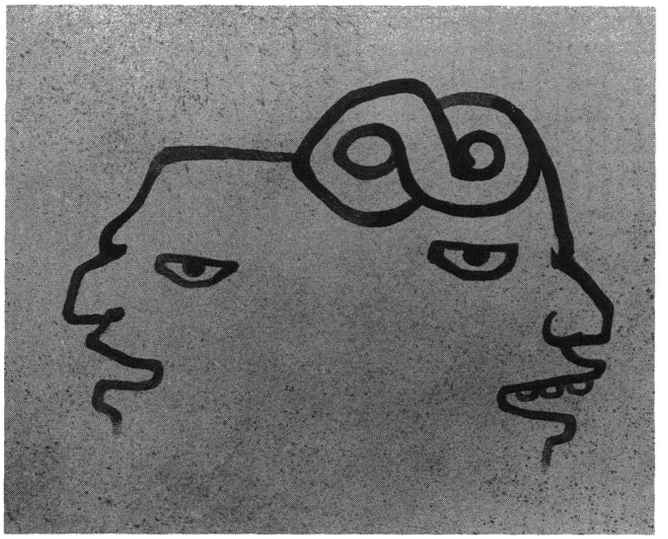


Fig. 94 Rendering of Mural 9 shown in Fig. 93 (cf. Codex Madrid 96). Painting by F. Dávalos.

brushes,[7] make clear that a first-rate workshop was responsible for these paintings. The most salient stylistic characteristic of these murals is the evenly controlled and distributed linearity of the figures and objects; there appears not to be a center of focus. The inside fill lines of a figure's face, when compared with his lower leg, for example, attract the eye equally because the linear treatment of each is the same, resulting in a tapestry-like effect over the entire surface of the wall.

The Late Post-Classic murals from Tulum all present figures in profile view. Objects, however, such as vessels containing offerings of *Kan* signs, are all shown frontally. In both cases the position is dictated by a concern for clarity in depicting the most recognizable aspect of what is pictorially presented. Also, these positions are both well suited to conveying the narrative content of the images. Although it can be argued that it is easier to draw figures in profile than in a frontal or three-quarters view, whereas objects are easier to draw in frontal view, the determining factor here is not technical limitation, for the drawing is masterful by any definition. Rather, the artists were concerned with the most practical presentation of figure or object that would make its modifying symbolic elements and motifs more visible. If the Tulum muralists had needed to show other pictorial views, they would have developed the technique to do so. A face, for example, has distinguishing features important to its iconographic identification, such as a long nose, flattened forehead, protruding teeth, or scarified cheeks. For the muralists' purposes, the profile view is more amenable to the depiction of such features. Also, in a medium like mural painting, in which space is limited by available architectural surfaces, the profile view, taking up less space, is the most economical mode of representation. For round objects, such as pots or incense burners, it is perhaps more accurate to say that a "flattened" view is presented, to reveal most clearly their identifying attributes.

There is a paper cut-out quality to the figures and objects depicted in the murals of Structures 16 and 5. Like paper dolls, the figures wear interchangeable masks, capes, pectorals, and headdresses, and the "fat pot" depicted in the murals is shown to contain interchangeable *Kan* signs, corn-leaf motifs, and tassels. Several standing and seated figures assume the same position and exhibit almost identical hand gestures, but the costumes they wear and the objects they hold vary. It is as if the paper cut-outs representing costumes and objects held in hands were substituted on the same flat dummy. A case in point is the standing figure in the upper register to the left of the "Diving God" (Pl. 37). This figure gains additional costume accretions when he is represented again, seated on the other side of the stuccoed relief "Diving God" sculpture, where he has acquired a God B mask behind the headdress and a more complex pectoral. The same figure is shown again in the middle register riding an unidentifiable quadruped and wearing a different headdress and a different mask.

The black background of these murals serves two functions: it unifies the disjointed body segments and the interchangeable parts of costume and ritual paraphernalia, and it "freezes" the implied motion of gesticulating limbs. While the disjointed design would tend to make one's eye concentrate on body parts and costume details rather than on the whole figure, and the suggested movement would tend to

[7] Felipe Dávalos G. has suggested to me that the unbroken, wirelike, black frame lines of the post–1400 Tulum murals were made by flexible brushes capable of holding large quantities of pigment. Such brushes were used by his silversmith father to paint designs on his work; they consisted of turkey feathers bound to sticks, trimmed and pointed to varying widths. Dávalos experimented with such bird feather brushes, producing lines very similar to those the Maya painted on the walls of Strs. 16 and 5.

break up the compositional regularity of the figures, the black background unifies the various elements into an insistently flat, coherent, and static visual whole.

The elements of costume not only suggest specific meaning but also imply associative meaning. For example, the maize deity standing between two figures of the second register from the top (Pl. 37)—identified by corn leaves in his headdress—is shown wearing down-curving, rather droopy headdress feathers and tassels to suggest the vegetal growth inextricably linked with that god. By contrast, the underworld deity depicted on the left side of the central column (Pl. 40) wears bristling and spiky costume elements that reinforce the *rigor mortis* associations that are directly communicated by such iconographic elements as the skulls in the headdress and the death-bell collar.

Of the twenty-seven or more painted stucco layers of Xelha Structure A (Fig. 85) (the seventh of which is the Terminal Classic/Early Post-Classic mural shown in Pls. 44, 45), the penultimate is painted in the putative style of the Early Colonial Period. This possibly Post-Conquest mural, designated Mural 2 (Pls. 46, 47), is the best preserved of the paintings that once covered the surfaces in the inner room of Structure A, a typical Late Post-Classic building. The style of Xelha Mural 2 shows many of the characteristics of the preceding Late Post-Classic mural style, but with a decided loss of sophistication and fineness of line. In many ways it is similar to the style of the mural on a column of Tulum Structure 1 (Pls. 23–24),[8] but is even more mannered and, therefore, illustrates more clearly the fourth mural development in the Tancah–Tulum region.

There are many busy black and blue lines on a plain ground, so arranged as to betray a sense of exaggerated *horror vacui* in the artists who executed the design (Pl. 46). Shown is a standing figure, wearing a jaguar skin headdress, with a spear in one hand and a shield in the other. Opposite this figure, on the other side of a vertical border, are the remains of a downward-pointing God B mask. Like the Tulum paintings, the murals of the interior room of Xelha Structure A are composed of three registers, the center one of which presents the figurative design. Although the upper register is so fragmented as to be unreconstructable, the lower register is separated from the middle one by a jaguar pelt band, a design that occurs in Tulum Structures 5 and 16 as well (Pls. 28, 37). Composition is not the only formal trait that relates these paintings to those of Tulum Structures 5 and 16. The colors are similar—black and blue lines on a blue or black ground—and the manner of delineating the figures with many parallel black and blue lines, creating a net-like effect on the dark ground, is similar at Xelha and Tulum.

Despite stylistic similarities, there are major differences which suggest that the Xelha murals (Pls. 46, 47) are mannered versions of those at Tulum. There is no black background at Xelha; therefore, the ground does not unify the two-dimensional design at it does at Tulum. At Xelha the style is relatively crude and decidedly inferior to that of the murals of Tulum Structures 5 and 16 (Pls. 28, 37). The black and blue net-like lines are less controlled than at Tulum, and the black lines are thicker, averaging a clumsy 6 millimeters in width on a relatively small painting surface, while those at Tulum average a delicate 2.5 millimeters on a larger painting surface. The jaguar-pelt band at Xelha is simplified to circles and hooks, as in the derivative column paintings of Tulum Structure 1 (Pls. 23–24). From what was determined of the proportion of the confronting figures in the middle register, a balanced sense of rhythmical proportion, so evident at Tulum, is lacking at Xelha. The headdresses at Xelha, for example, in comparison with those at Tulum, are out of proportion to the body. In general, the Xelha paintings betray self-conscious awkwardness, as if artists were trying to imitate a painting style beyond their artistic training. They ended up by making a pastiche of the elements of the Tulum style, a pale reflection of a once-vigorous tradition. It is principally for this reason—the derivative and mannered aspect of the Xelha painting style—that I think these Xelha paintings were executed by artists who inherited a disrupted Tulum painting tradition. I suggest, therefore, that the Xelha murals from the interior of Structure A are later than those of Tulum and were possibly painted during the Early Colonial Period.[9]

The final layer of paint in the interior room of Xelha Structure A is a whitewash, covering the Early Colonial paintings. Although the interval between the use of figurative paintings and the subsequent whitewashing cannot be determined, in view of the Tancah chapel nearby, it is tempting to speculate that the whitewash was applied by Catholic priests or zealous converts.

Summary of the Stylistic Seriation

The murals in the Tancah–Tulum region undergo four stylistic modifications during the roughly 700-year history of the extant paintings. The first surviving mural style of the region represents a period of clumsy artistry, characterized by the use of broad, flat areas of color outlined by thick, black lines painted on a plain stucco ground. In contrast to the hesitant and awkward draftsmanship of the Terminal Classic/Early Post-Classic murals at Tancah and Tulum, those from Xelha, while contemporary with the cruder Tancah and Tulum murals, exhibit finer draftsmanship and painting techniques, suggesting that, during the Terminal

[8] Very shortly after columns of Tulum Str. 1 were erected and painted in the post-Tulum Strs. 16 and 5 mural style, they were stuccoed over, painted red, and converted to serpent columns by the addition of rattles on the capitals and open-mouth serpent heads at the bases.

[9] Confirming evidence of the Early Colonial date of these murals comes in the form of Post-Conquest censer wares found on the altar of the inner room of Str. A (Fig. 95).

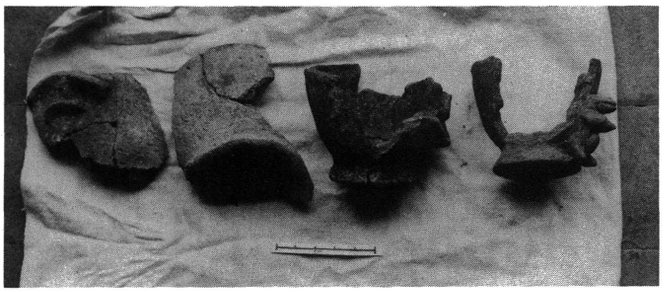


Fig. 95 Fragments of Early Colonial censer wares from the inner room of Xelha Str. A.

Classic/Early Post-Classic Period, Xelha was a generative center of mural production of the region.

The second stylistic change is that of the Middle Post-Classic, represented by the murals of Tancah Structure 44, which are derivative of those of the previous period and follow the painting style of codices, and codices may have served as "model books," with even the page subdivisions transferred onto a wall.

The third stylistic change marks the beginning of the Late Post-Classic Period and is represented in the murals of Tulum Structures 5 and 16, indicative of cultural florescence. The murals of this period are stylistically innovative in the region; a monochromatic palette, the adoption of fine lines to fill in drawn areas, consistent flatness to convey meaning clearly, and a *horror vacui* are the salient new stylistic features.

The fourth modification is represented by the derivative paintings that decorate the columns of Structure 1 at Tulum, probably painted by local artists who were commissioned to copy the style of Tulum Structures 5 and 16 and who were not up to the sophistication the style demanded. More clearly part of the fourth modification are the possibly Early Colonial murals at Xelha (Str. A, inner room) that represent the termination of the once-flourishing mural tradition.

The proposed developmental sequence of rapidly changing mural style in the Tancah–Tulum zone summarized above would be less convincing if the murals had been "floating" outside their archaeological contexts, for stylistic evidence alone is insufficient to date murals. Stratigraphy is the key to dating here, and it allows us to appreciate the rate of mural change and to contemplate the cultural implications of that development in the context of archaeologically reconstructable material culture. For example, in dating Tancah Structure 44 by means of its ceramic and platform sequences, we were able to be reasonably certain that the Structure 44 mural was at least as early as the Middle Post-Classic Period. We could then apply the finer chronological tool of the murals which, when compared with the earlier paintings, pointed to a fourteenth century date. Fortunately the two high points in mural production during the Terminal Classic/Early Post-Classic and Late

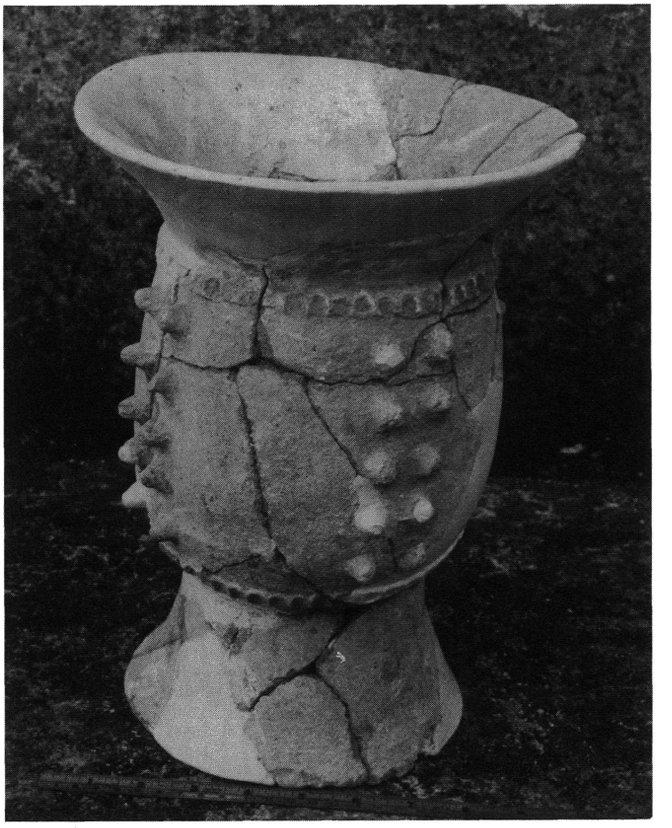


Fig. 96 Example of a non-effigy censer ware from Mayapan with impressed appliqued fillets very much like those depicted in Tancah Str. 12 (Pls. 6, 7). I.N.A.H. ceramic bodega, Palacio Canton, Merida, Yucatan.

Post-Classic Periods also have apexes in the architectural and ceramic record as well, giving us further evidence for the cycles of florescence and decline characterizing the Tancah–Tulum region.

A SERIATION OF MURAL ICONOGRAPHY

The following discussion focuses on Tancah–Tulum mural iconography with an eye to its chronological implications. Developmental changes in subject matter occur at the same time as those of style: complex iconographic motifs are introduced during the Terminal Classic/Early Post-Classic Period, and the major stylistic break in the tradition at the beginning of the Late Post-Classic Period is paralleled by changes in content. Unfortunately, uneven preservation renders a chronological study of mural iconography particularly difficult because the iconographic content of a mural, unlike its style, is sometimes impossible to understand on the basis of a few surviving fragments. An analysis of iconographic change through time must therefore be restricted to relatively complete murals.

The iconography of the Terminal Classic/Early Post-Classic mural tradition is best represented by the interior painting of Structure 12 at Tancah (Pls. 6, 7). The most

obvious interpretation is that of an agricultural ritual (*Ch'a chaac*): standing Chaacs summon the rain while confronting a seated maize deity, a personification of the object to be gained in carrying out the ritual. Offerings of rubber are shown above the mat motif, alternating with large drum-shaped censers.

Identification of the ceramic forms represented in this mural may serve as secondary evidence for its Terminal Classic/Early Post-Classic dating, assuming that the ceramic wares shown are contemporary with the painting of the mural. Joseph W. Ball (Appendix I) has identified the four large censers shown in this mural as being Mayapan-style, non-effigy censer-wares with appliqué disks and impressed-appliqué fillets. These censers appear to have been post-fired painted with a calcareous whitewash and blue and red paint. Figure 96 shows an example of this ceramic ware from the Mayapan collections that is similar to those that may have served as models for the ones painted in the mural of Tancah Structure 12. In fact, sherds of this ceremonial ware were commonly found in the uppermost levels of the Structure 44 excavations.

Another recognizable ceramic ware, shown held in the hand of the seated maize god and containing *Kan* signs, is what Ball has identified as a typical Thin Slate form, probably a Ticul group Slate which is also a Terminal Classic/Early Post-Classic ware. An especially interesting aspect of this vessel is that its body is represented as white with a red band around the rim. Ball has suggested that this band might be a representation of post-fired painting that would not normally survive archaeologically and may illustrate the kind of painted decoration common on Thin Slate Wares. As with the censer wares, Thin Slate Ware sherds appeared in the ceramic lots.

The tripod vessels held in the outstretched hands of two of the standing Chaacs have additionally been identified by Ball as probable depictions of Fine Orange Ware, possibly of the Altar Group (Fig. 97). The vessels represented in the mural also exhibit bands of post-fired white-and-red paint on their rims, and Altar Fine Orange Ware sherds are found in the Tancah ceramic collections.

An interesting parallel to the distinctive iconographic program of Structure 12 at Tancah—a standing figure wearing a Chaac mask and holding in one hand a container with a small figure inside it and in the other a hafted axe—appears on two crudely carved monuments now kept on the nearby island of Cozumel (Fig. 98). In an accompanying undated note in the San Miguel de Cozumel Museum, written by Loring M. Hewen,[10] these carved stones are described as "Stela A" and "Stela B," respectively, although their size suggests that they were more likely door jambs than stelae and are more appropriately referred to as "Door Jamb A" and "Door Jamb B." Hewen's own drawing of the reliefs, currently also in the Cozumel museum, has the following hand-written statement attached to it: "Found at temple destroyed to build airport at Cozumel . . . or at Tulum . . ." (no date). If the carvings came from the area of construction of the Tulum airstrip, they would have been found very close to Tancah, for the airstrip is located slightly inland, between the ruins of Tulum and Tancah. Both carvings show a figure wearing a Chaac mask and holding in his right hand a container with a figure (Jamb A) or an unidentifiable object (Jamb B) in it. The left hand, which in Door Jamb A holds a hafted axe, runs off the right side of the carving in Door Jamb B.

Fig. 97 An Altar group, Fine Orange Ware vessel from the Merida ceramics bodega.

Like the mural of Tancah Structure 12, Door Jamb A is assigned stylistically to the Terminal Classic/Early Post-Classic Period. Door Jamb B is so crudely incised that little can be said about its style, although its iconographic relationship to Door Jamb A is clear. It is possible that Door Jamb B is a copy of the other, made by people with no carving tradition or training; similar door jambs have been found recently at Cancun, at the northeast limit of the peninsula opposite Isla Mujeres (Pablo Mayer, personal communication, 1977). If such "floating" monuments can be assigned to our Terminal Classic/Early Post-Classic Period of Tancah–Tulum, as seems likely, they imply that the sculptural tradition is derivative and provincial, and that whatever innovative artistic expressions the region had at the time are to be seen in wall painting and architecture rather than in sculpture.[11]

The extant murals from Tulum Structure 1-Sub. are so fragmentary that very little of their iconographic content can be understood (Fig. 99; Pls. 13–22). There are, however, depictions of pottery wares similar to those portrayed in Tancah Structure 12. The ceramic vessel held upside-down in the hand of the falling, long-nosed creature shown

[10] Retired businessman and explorer of Maya ruins along the east coast of Yucatan during the 1950s.

[11] Sculpted low-relief door jambs very similar in style and iconography to the ones discussed here were recently found at Cancun by Pablo Mayer (personal communication, 1977). The Cancun examples had been covered by debris and revealed traces of blue and red painted stucco applied to the low-relief carvings. It is possible, therefore, that the carvings shown in Fig. 98 were originally stuccoed and painted.

Fig. 98 Door Jambs A and B now in the Cozumel Museum, possibly originally from Tancah. Drawing by A. Miller.

in Figure 99 is probably a Thin Slate Ware bowl, and the tripod form held in a disembodied hand (Pl. 19) is possibly a depiction of an Altar group Fine Orange Ware (Fig. 97), both of which are shown in more recognizable forms in the mural of Tancah Structure 12 (Pl. 6). Also related to the objects appearing in the Tancah Structure 12 mural are the rubber bundles set on vertical mat motifs, visible in a surviving mural fragment from Structure 1-Sub. (cf. Pls. 6, 15).

The "codex-style" paintings from Tancah Structure 44 were placed temporally in the fourteenth century on the basis of the independent dating of the architecture on which the mural was found (providing an earliest possible date)

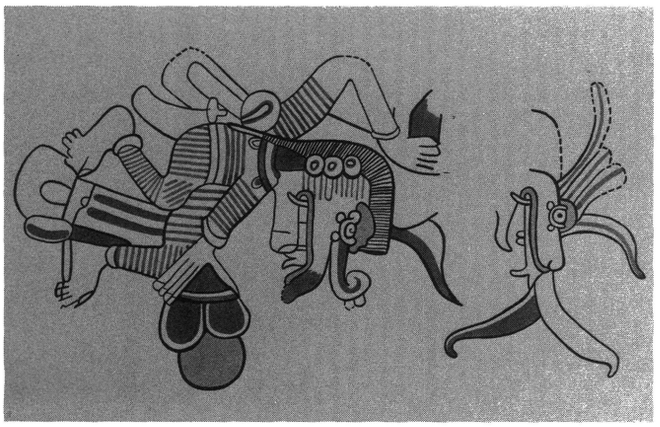


Fig. 99 Rendering of the falling long-nose striped creature shown in the corridor of Tulum Str. 1-Sub., Mural 4; the ceramic vessel held upside down in the creature's right hand may be a Thin Slate Ware bowl like the one shown held by the Maize God in the mural of Tancah Str. 12 (Pl. 6). Drawing by E. Robinson.

and of an estimate of the "stylistic progression" from the previous Terminal Classic/Early Post-Classic style of Tancah Structure 12 and Tulum Structure 1-Sub. Because Late Post-Classic mural fragments are visible on top of Mural 2 from Structure 44, the sequential ordering of these styles is beyond question, although the time interval between the two styles is problematic. Less troublesome is the identification of a Fine Orange Ware pyriform vase with hollow "turkish slipper" supports, held by God C in Plate 12. This ware was manufactured from the twelfth through the thirteenth centuries, well within the chronological limitations described for the Middle Post-Classic mural. That the ware predates the putative A.D. 1350 date for the murals of Structure 44 may be explained by the possibility that the mural was copied from an earlier codex.

With the Late Post-Classic, radically new iconographic clusters were introduced. For example, the depiction, in three registers, of cosmological themes of rebirth and of passage from the Underworld to the Middleworld, analyzed in Chapter V, was introduced into the region at this time. While it is possible that these concepts were present earlier I do not think it likely; incontrovertibly, they first appear on painted walls of this latter period.

Recognizable ceramic wares also provide secondary evidence for the late dating of these murals. Distinctive censer wares depicted on the exterior cornice of Tulum Structure 5 (Pl. 25), as well as on the interior east wall (Pl. 28), are faithful renditions of Chiquila Censer Wares from El Meco, Quintana Roo (Fig. 100) (Sanders 1960: Fig. 15f). Also recognizable, but of lesser chronological significance, are the highly generalized strap-handled jars seen at Tulum Structure 16 (Pl. 37); these have a duration of A.D. 300–present. Ball has suggested that the small figures held in hands in this mural (Pl. 37) may represent effigy censers, a good Late Post-Classic time marker (Fig. 101).

The derivative Late Post-Classic murals surviving on the columns of Tulum Structure 1 exhibit iconographic clusters reminiscent of those on Structures 5 and 16. Like the paintings on which they are modeled, the organization of the painted surface is divided into three registers occupied by figures enframed by twisted-cord borders (cf. Pls. 24, 37). In the sky band on Structure 1, simplified versions of the alternating *Xux Ek* and sun-ray motifs can be seen (Pl. 23); also, the jaguar-pelt band above the Underworld is simplified into a row of hooks and circles while the Underworld itself is reduced to a plain black band (cf. Pls. 24, 37). No recognizable ceramic type is depicted in these derivative murals, but this may be a function of the poor draftsmanship in the column paintings. The large strap-handled jar is recognizable, although it is very summarily represented when compared with its prototype in Structure 16. For much the same reasons as in the Structure 1 column paintings, the blue and black murals from Xelha (Pl. 46) are derivative versions of the Tulum Structures 5 and 16 murals (Pls. 28, 37). The possible Early Colonial date of these Xelha paintings finds more support from a

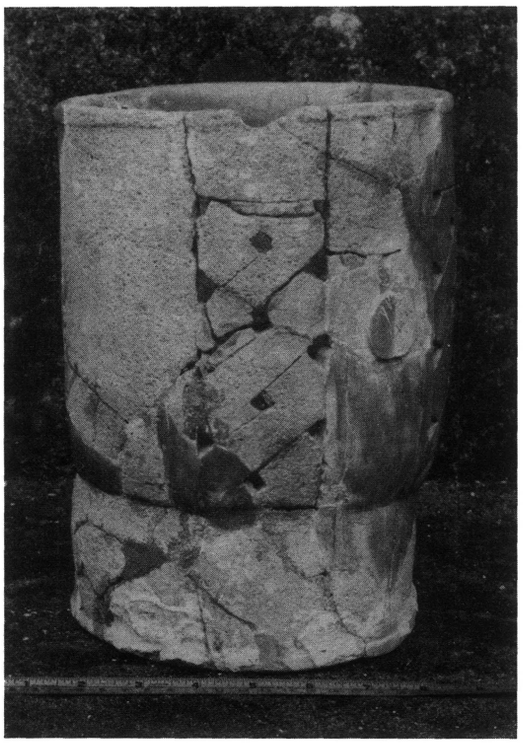


Fig. 100 A Chiquila censer from El Meco. I.N.A.H. ceramic bodega, Palacio Canton, Merida, Yucatan. A censer like this may have served as a model for censers shown on the Late Post-Classic murals from Tulum (cf. Pls. 25, 28).

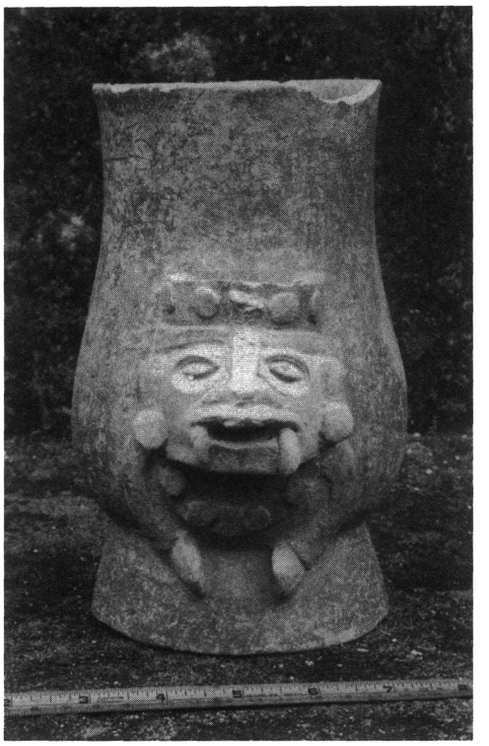


Fig. 101 Example of a Late Post-Classic effigy censer ware from recent excavations at Coba; censers like this may refer to the small figures held in hands of personages shown in the Late Post-Classic murals from Tulum (cf. Pl. 37). They are analogous to Mayapan Chen Mul Modeled Censer Wares.

developmental stylistic point of view than from iconographic evidence *per se*; if the paintings are indeed Colonial, as the censer wares found on the altar associated with them would suggest, the iconography persisted in a much-simplified form.

Summary of the Iconography Sequence

Despite the fact that the incomplete fragments of extant mural painting in the Tancah–Tulum region render the sequential ordering of murals on the basis of iconography extremely uneven, a sequence of content similar to that of style has been charted. This is based largely on the recognizable ceramic forms depicted in the murals that confirm the stylistic sequence of Terminal Classic/Early, Middle, and Late Post-Classic murals. A derivative Late Post-Classic/Early Colonial mural iconography, like the style, is seen as an attempt to duplicate the Late Post-Classic florescence without the artistic sophistication present earlier. The complexity of the Late Post-Classic iconography is made more evident when it is contrasted with the examples of later attempts to emulate it, as seen in the Structure 1 column paintings at Tulum and in Mural 2 of Structure A at Xelha.

CHAPTER IV

Cycles of Commerce and Conquest: A Prehistory and History of the Tancah–Tulum Region

A TENTATIVE RECONSTRUCTION of the salient features of the Tancah–Tulum past can be made based on available pictorial, archaeological, and documentary evidence. Maya history in this region is seen as a process in which physical setting, geographical location, and local attitudes toward outsiders all played a part and were closely interrelated with the cyclical themes reflected in the mural art. Much of the evidence is visual, which is not to say that other data can be disregarded or subordinated. But it is clear that such complex cultural expressions as the murals contain much information about what the Maya were doing and thinking and can both complement and help to interpret other kinds of evidence.

Presented here is an interpretive reconstruction of the past in the Tancah–Tulum region based on the facts as they have been presented, ordered chronologically, in the previous two chapters. It is in part a culture-historical account for the Tancah–Tulum region which serves as a background for the largely functional and processual interests expressed both in this chapter and in Chapter V. This hypothetical scenario is written in full realization that future data from this region and from regions related to it, added to the substantive data presented in Chapters I–III, may change or even invalidate what is put down here. I am particularly aware that what is characterized below as cultural change manifest in mural painting, architecture, ceramics, and certain documentary sources may well be demonstrated in the future as having been caused not so much by outside factors of foreign commercial and military intervention, but rather by yet to be discovered local developmental causes. There may be good reasons forthcoming for accepting change as originating from nearer at home rather than farther away. But such "economy of explanation" is not evident in the data available now.

EARLY PREHISTORY

There is little known about the origins of the Tancah–Tulum people except that ceramic evidence points to occupation of the region as early as 300 B.C. by a group bearing the Cienaga Ceramic Complex. According to Ball (1978: 122–125), Tancah represents the southern limit of the Cienaga ceramic interaction sphere, which extends up the coast around Cabo Catoche to its western limit at Rio Lagartos; at Tancah, the Chicanel Sphere replaces the Cienaga Complex at about 75 B.C..and persists until *ca.* A.D. 250 when Tancah Structure 44–4th was built. It is possible that the widespread introduction of the Chicanel Sphere represents the first conquest cycle in the Tancah–Tulum region. If so, the region participates in a pan-peninsular change at this time.

That the Pre-Classic Maya of the Tancah–Tulum region exploited marine protein sources is supported by the many fish bones and *Strombus gigas* shells found from the Pre-Classic levels of the 1974 excavations. In contrast to the west and north coast of the Yucatan Peninsula where evidence of a heavy reliance upon marine protein is found only in the Late Pre-Classic (Lange 1971; Ball and Eaton 1972), it would also appear that the Maya of the Tancah–Tulum region continued through the Classic and Post-Classic Periods to eat a wide variety of marine protein produced in the reef-protected waters fronting Tancah.[1] The surplus was probably dried and exported; preserved fish is reported to have been an export item along the East Coast just before the Spanish Conquest (Roys 1943: 52–53).

Turtle was more than a local food resource during the Late Post-Classic, as suggested by the turtle effigy censer found during the excavations of Tancah Structure 44 (Fig. 6), and it may have been a major food export of the East Coast in Pre-Columbian times. During the seventeenth and eighteenth centuries, turtle was a source of oil, and many seventeenth-century ship crews reportedly lived on dried sea turtle from the Caribbean (Gage 1969: 34). Turtles can also be maintained alive outside the water for long periods if turned on their backs and kept cool. Because the East Coast is an important egg-laying region for the marine turtle, it is not unreasonable to suppose that the

[1] An abundance of marine refuse, consisting primarily of fish bones, turtle carapace, and mollusca, appeared in secondary deposits in all levels of the Str. 44 Complex excavations.

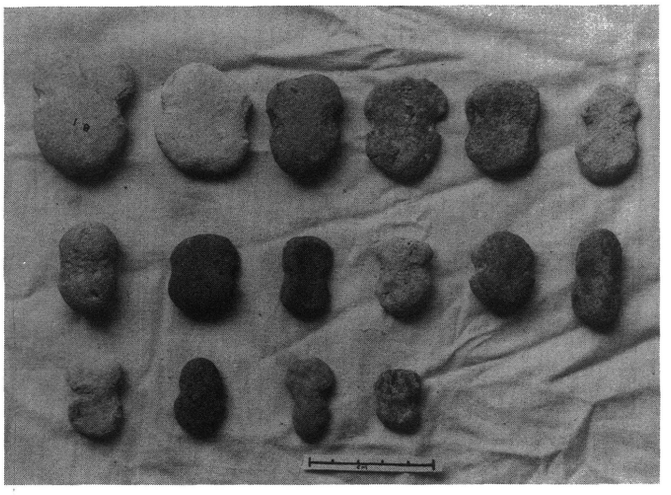


Fig. 102 Notched limestone or coral stones probably used as net sinkers. All come from lower levels of the Tancah Str. 44 Complex excavations. The large sinker in the upper left was found in the fill of Burial 1.

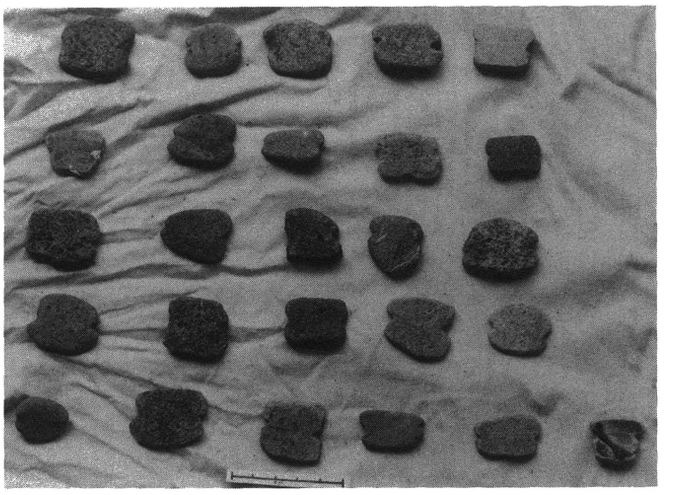


Fig. 103 Notched ceramic sherds, principally of Tulum Red Ware, possibly employed as net sinkers. All were found on the surface of the Tancah Str. 44 Complex. The notched sherd in the extreme lower right is of Spanish Majolica, indicating that their use continued unchanged into the Early Colonial Period.

cyclical phenomenon of fecund turtles lumbering out of the sea to lay their eggs on the beach could also have been incorporated by the Maya into a local cult of renewal and rebirth.

Large fish, most reef-dwelling but some pelagic, come into the region's many lagoons, which are connected directly to the sea by narrow rocky passages, as at Xelha, or by underground tunnels, as at Tulsayab (Figs. 2, 3). Fish enter such relatively confined spaces to breed, and it is most probable that the Maya noticed this. Along with the egg-laying turtles, these breeding lagoons would have reinforced the Maya cult of rebirth and renewal as an important theme in East Coast art. Nets, probably made of henequen, could have been used to entrap fish in quantities during their passage into or out of these lagoons. Small pebbles and potsherds with V-shaped segments removed from opposite ends, serving as notched weights or "sinkers" for fishing nets,[2] were found in great concentrations in all the excavation levels (Figs. 102, 103). In view of the archaeological remains of mollusca, turtle carapace, fish bones, and net sinkers found in all our excavations levels from the Pre-Classic to the Colonial Periods (Fig. 103), it would seem that marine subsistence patterns did not change at all from the Pre-Classic, except for varying intensities according to changes in population.

Obsidian in Classic Period levels implies the existence of long-distance seaborne trade, probably from a source in highland Guatemala.[3] The presence of greenstones (serpentine and jadeite?) in burials of the Structure 44 Complex (Table II), along with a single piece of polished pyrite also from a burial of the Classic Period (Table II), further suggests long-distance luxury-trade networks, as do the pottery wares found in burials sealed in Structure 42–3rd. Virtually all the *metates* and *pilas* found were made of local limestone, and the *manos* were of either limestone or coral. A single metate of granite, probably from a source to the south,[4] was found in sand on the beach fronting Tancah without any indication of its period of use; it was the only *metate* or *metate* fragment not of local material encountered on the surface or sealed in platform fill during the course of the work at Tancah.[5]

The object of greatest artistic importance to come from the Classic Period levels at Tancah was found in Burial 4: the greenstone pendant discussed also in Chapter II (Fig. 32; Pl. 5). Although the pendant was found in a Middle Classic burial, the style of the piece suggests a Pre-Classic date, a date supported by the four similar "bib-and-helmet style" pendants found in Formative contexts at Nohmul in northern Belize by Norman Hammond (1974: Fig. 7). The style of the carving, as well as that of the other pendants, suggests a derivative stone-carving tradition, looking toward the Tabasco lowlands as the primary model. The concentration of these pendants along the East Coast raises the

[2] It has also been suggested that, because of the uniformity in size of these stone and ceramic artifacts, they are weft weights (Kent and Nelson 1976) used in weaving cloth. This interpretation finds support in the fact that cotton cloth was a major export item from Yucatan during the Late Post-Classic and Colonial Periods and may have been during earlier periods as well. I favor a "net-sinker" interpretation for these artifacts, however, because the marine environment of Tancah would have provided ideal use for nets to catch quantities of fish and because the objects, with the exception of a small collection from Mayapan (Proskouriakoff 1962: 402), do not appear at inland sites.

[3] During the course of eighty debris-clearing, test pitting, and trenching excavations in and around the Str. 44 Complex, only thirty-six obsidian blades were found, in contrast to many hundreds of chert fragments. Yet, the two types of obsidian in our collections—a dull streaky gray and a gray with a slight pinkish hue—are probably linked to specific sources in Highland Guatemala (Hammond 1976; Sidrys, Andresen, and Marcucci 1976). Unfortunately, the lithic collections and stucco floor samples excavated from the Str. 44 Complex have not yet been allowed to leave Mexico for study.

[4] The nearest source of granite is the Pine Ridge and Maya Mountains area of Belize (Thompson 1970: 128).

[5] A total of eighteen *metate* fragments was found during the course of excavating the Str. 44 Complex, almost all of them pertaining to its latest period of occupation. These *metates* remain in Mexico.

possibility of their being manufactured there. The Tancah pendant is a good example of the kind of provincialism in artistic style that comes from being far from the centers of primary production.

During examination of the Tancah ceramics with Joseph Ball in January 1977, nothing was found in the ceramic data to suggest that the Tancah–Tulum region was a generative center of ceramic manufacture during the Classic Period; in fact, during this time, luxury wares were imported from the Northern Maya Lowlands, Campeche, or northern Belize. It is possible that Coba may have been the source for Classic Period wares, but until the results of investigation at Coba are published, this possibility cannot be validated or refuted.[6] A factor suggesting that Tancah was a backwater region vis-à-vis the rest of the Maya area during the Classic Period is the long use of Structure 42-3rd as a burial repository, indicating minimal architectural activity during this time.

An important artistic product of the Classic Period is Tulum Stela 1 (Lothrop 1924: Fig. 17a, b; Pl. 1A, B), a monument warranting comment in regard to Classic Period events in the Tancah–Tulum region. It has already been noted that the stela was probably moved to Tulum from Tancah (Andrews IV 1965: 299), although a Coba origin is a strong possibility, given the Classic Period stela tradition there. It could not have been carved at Tulum, since the earliest architecture and ceramics found at Tulum date from the Early Post-Classic Period (Alfredo Barrera Rubio, personal communication, 1976); furthermore, the earliest murals associated with Tulum Structure 1-Sub. date to the Terminal Classic/Early Post-Classic Period and are roughly contemporary with those in Tancah Structure 12.

The style and dating of Tulum Stela 1 are also significant. Although Lothrop (1924: 41) assigns a date of 9.13.10.0.0 7 Ahau 3 Cumku to this monument, Proskouriakoff (1950: 112) has pointed out that because the *lahuntun* 7 Ahau "can also be read as the lahuntun of the Katun 7 Ahau," a "direct reference to the Initial Series 9.6.10.0.0" is probable. Added support for Proskouriakoff's dating of Stela 1 comes from the stylistic evidence: ". . . the style is very much like that of the Early Classic Period in the Peten and resembles particularly closely that of the Leyden Plate." However, Proskouriakoff (1950: 112) further notes that Stela 1 also has characteristics of the Late Classic style of the Peten, particularly in the frontal view of the hips combined with feet turned outward.[7] In this regard, she suggests that "the Late Classic begins as early as 9.6.10.0.0" in the Tancah–Tulum region. Clearly, the nature of the relationship between this region and the Peten would be clarified by understanding the relationship of Coba to both the Peten and Tancah–Tulum. At this point, it is clear that Stela 1 suggests a different rate of change in the monumental carving tradition of Tancah–Tulum when compared with that of the Peten.

If Stela 1 was in fact moved from Tancah or Coba to Tulum, one would expect a *sacbe* to have been used. Such a view is consistent with a functional intepretation of *sacbeob* as processional roads expressing satellite relationships between major sites and their dependencies.[8] Although the existence of a *sacbe* between Coba and Tulum has been hypothesized (Andrews IV 1965: 303), one has yet to be found; evidence for a *sacbe* between Tancah and Tulum is also lacking. Recent investigations of the Instituto Nacional de Antropología e Historia at Coba, however, have produced information from architecture and ceramics of continuous Post-Classic occupation there, contemporary with that of Tulum (Robles Castillo, personal communication, 1977). During the Late Post-Classic, when Tulum had its heyday, the contemporary architecture at Coba was markedly inferior to that of Tulum and obviously derivative of it. Available evidence does indicate, nevertheless, that during the Classic Period Coba was an enormous site with all the material trappings associated with a major center in the Peten. If Stela 1 was transported from Coba to Tulum, I suggest that such behavior may have symbolized the homage of Coba to Tulum. Stela 1 was moved to Tulum during the Post-Classic Period, as many as 500 years after it was made, and by that time, I suspect that the original meaning of the stela had been lost to the Tulum Maya and that moving the ancient monument to their site was an expression of symbolic superiority over its original location. The keeping of objects as heirlooms can also be seen in the Tancah–Tulum region during the Middle Classic in Burial 4, discussed in Chapter II, as well as during the Colonial Period, when a Middle Classic vessel formed a foundation cache in the Spanish chapel at Tancah.

That Stela 1 is a "hiatus" stela is significant. In his paper on the Classic Maya hiatus, Willey (1974) includes Tulum as one of the peripheral regions that produced stelae with hiatus dates, along with Pushila in southern Belize, and Tonina, Comitan, and Chinkultic in Chiapas. Coba, too, has hiatus stelae and, as noted above, is the possible origin of Tulum Stela 1. Implict in Willey's argument is that sites marginal to the center of Classic Maya civilization profited in some way from the disturbed time in the Southern Maya Lowlands from 9.5.0.0.0 until 9.8.0.0.0. Willey argues that it was the withdrawal of a symbiotic relationship with foreign powers such as Teotihuacan that precipitated the hiatus in the Southern Maya Lowlands (Willey 1974: 423). The concurrent stela activity at the margins when the center is on a decline invites comparative analogies in better-documented pasts. For example, in the relationship be-

[6] Ball's appendix includes unpublished data suggesting that certain Classic Period ceramics at Tancah may have come from Coba.

[7] Actually the feet on the front are missing, but, as Proskouriakoff (1950: 112) points out, because the hips are shown in front view, it is probable that the feet were shown splay-footed.

[8] While *sacbeob* could have been used to transport goods from one site to another, the enormous expenditure of labor involved in their construction suggests that commerce alone was not adequate motivation for building them, especially in view of the fact that cleared footpaths are perfectly adequate in Yucatan today to transport goods.

tween Spain and her colonies in the seventeenth century, as imperial commitments began to outstrip imperial resources, Spain suffered an economic and political decline. However, the rhythm in the New World colonies, marginal outposts of Hispanic civilization, was different. Some historians have begun to see Spain's decline as a boon to the colonies: no longer able to depend on imports from Spain, the colonies were forced to develop more manufacturing and commercial strength of their own, despite serious shortages of manpower.[9] The economic and political history of seventeenth-century Spain and her colonies are, of course, known in far greater detail than the period of A.D. 534–593 for the Maya, but it is clear that the marginal regions produced stelae during this time when the center did not. The probability that the two phenomena are related is very high, although we cannot yet be specific about the mechanisms involved.

I think it is important to emphasize that not all margins are the same. Tancah—unlike Pushila, Tonina, Comitan, Chinkultic, and even Coba—is not in a buffer zone between culture areas such as southeastern Mesoamerica and the Southern Maya Lowlands. Tancah is marginal in the sense of being at the edge of the Maya world, a natural frontier zone. Given this basic difference, the economic, political, and social factors operative in the buffer zones discussed by Willey (1974), and by Rathje (1971, 1973) in his "trade-failure hypothesis," may have little to do with the Tancah–Tulum region for most of its history. There is inferential evidence that at about A.D. 770 and again at *ca.* A.D. 1400, Tancah became a kind of linchpin in a long-distance trade network around the Peninsula of Yucatan.[10] But from A.D. 534–593, the period of the hiatus, no such evidence exists. It is a very different thing to be a link in an artificial economic network than to lie between two centers of production or between producer and consumer. In the first instance, as at Tancah, the status of link is entirely dependent upon the existence and maintenance of the chain of trade; without the long-distance trade, Tancah is located in a marginal zone, not a buffer zone. In the second instance, Tonina is always in a buffer zone between two production centers (or producer and consumer); whether or not trade exists between them, its status is defined by its geographical position. Whatever the precise economic, political, and social relationship between Tancah and the core areas of the Southern Maya Lowlands and the Northern Maya Lowlands,[11] the available evidence indicates that during the Classic Period, with the possible brief interlude of the hiatus, Tancah was a cultural backwater. For example, we know that Structure 44-3rd served, essentially unchanged, as a burial receptacle within a continuously occupied domestic unit for at least 300 years because Burial 1 (*ca.* fourth century A.D.) and Burial 2 (*ca.* seventh century A.D.) were found inside it. With ample evidence of the continuous occupation of Structure 44 throughout the Classic Period, the long use of Structure 44-3rd implies an architectural stagnation, at least in this part of the site.

For most of its past, the Tancah–Tulum region was a backwater within the larger Maya area. Exceptions to this pattern are registered by painted architecture and ceramic evidence produced from the Terminal Classic/Early Post-Classic Periods (beginning *ca.* A.D. 770) and particularly from the Late Post-Classic Period (beginning *ca.* A.D. 1400), when the region appears to have been developmentally advanced in relation to the rest of the Maya area. The mural evidence indicates similar developmental patterns of derivative provincialism versus regional florescence.

THE FIRST ENTRADA: *ca.* A.D. 770

"*Ti u talelob ti likin ca uliobe*"
("They came from the east when they arrived")
The Book of Chilam Balam of Chumayel
(Roys 1933: 20, 77)

There are several classes of material culture that are significantly unlike what came before, and can be perceived as the direct or indirect results of cultural stimulus from the outside, initially originating as far away as the highlands of Mexico. Among these, the most important for our purposes are mural painting and architecture, although ceramics, too, are seen as intrusive in the region. The period when these new forms were introduced into the Tancah–Tulum region begins *ca.* A.D. 770. In establishing this date it must be acknowledged that significant remains of artistic expression do not appear in the archaeological record of Tancah until around the Terminal Classic Period and that this may be a function of chance preservation. It is, nevertheless, suggestive that this date marks the appearance in the archaeological record of a distinctive mural-painting style, architectural forms, and ceramic types. The painting, in particular, is indicative of non-Maya influences.

The best example of the Terminal Classic/Early Post-Classic mural style comes from Tancah Structure 12 (Pls. 6, 7). The salient stylistic characteristic of this mural is the use of flat color areas of blue, red, and ochres, outlined in black and arranged on a plain, colorless stucco background. Other examples of this characteristic Terminal

[9] Lynch (1969: 194–228) outlines the process by which marginal colonies become new centers of production as old ones decline: "Spain's recession was America's growth" (Lynch 1969: 195).

[10] See Appendix I for Ball's discussion of Tancah as a satellite of Coba during the Classic Period.

[11] Although Rathje's (1971) definition of "core area" of Maya Lowland culture pertains exclusively to the Southern Maya Lowlands, Andrews IV (1965) has long maintained and documented in his work at Dzibilchaltun that the Northern Maya Lowlands was also a generative core of Maya civilization during the Classic Period. The Northern Maya Lowlands have been seen as derivative from the Southern Maya Lowlands because more intensive archaeological research has been conducted in the south while the north was largely ignored, and because the long Spanish occupation in the Northern Lowlands destroyed centers with probable Classic Period occupation, such as Ti'ho (Merida). With this in mind, the Northern Maya Lowlands is here considered a core area of the Classic Maya, in contrast to the Tancah–Tulum marginal zone, on the edges of both generative centers in the south and the north.

Classic/Early Post-Classic style can be seen in the murals of Tulum Structure 1-Sub. (Pls. 13–22) and in Mural 6 of Xelha Structure A (Pl. 45) which bears the technically proficient diving image. Because murals in this style were also detected at Coba, the possibility that Coba may have been the vector of the style cannot be ignored. The technical superiority of the Xelha murals, however, suggests that this site was the generative center.[12]

In 1972 I suggested that the style of the distinctive Terminal Classic/Early Post-Classic mural painting at Tancah, Tulum, Xelha, and Coba is reminiscent of Terminal Classic/Early Post-Classic paintings from highland Mexico at Ixtapantongo, in the state of Mexico (Villagra Caleti 1971: Fig. 27), and also of the painted low-relief benches at Tula, Hidalgo (Acosta 1957: 132; Nicholson 1971: Fig. 25). The latter are technically not mural paintings, but they show processional figures that are close in composition and style to the Tancah paintings (Miller 1973b). I also argued that the paintings of the Temple of the Warriors at Chichen Itza (Figs. 104, 105) are stylistically related to the Tancah mural. I now think that, in the murals, the influence from highland Mexico is indirect and that the Chichen affiliations are more significant. The Terminal Classic/Early Post-Classic mural style of the Tancah–Tulum region is not a "Mexican" one but rather a "Mexicanized–Maya" one, which Tozzer (1957) called the "Toltec-Maya style." Complicating the issue of foreign contact is the fact that the rows of round columns fronting Tulum Structure 1-Sub. are more reminiscent of those at Mitla than of those at Chichen Itza.

Whatever factors that produced the "Toltec-Maya style" at Chichen Itza may have also been operative on the East Coast, perhaps at a slightly earlier time. Consideration of such influences brings to mind the role of Thompson's (1970) "Phoenicians of the New World," the Acalan-Chontal, and whether they were active on the East Coast as early as the Terminal Classic/Early Post-Classic Period, when an intrusive, possibly foreign element appears in wall painting of the Tancah–Tulum zone. In this regard it is perhaps significant that there is evidence for possible Terminal Classic (Modified Florescent) architecture on the north coast of Yucatan (Ball and Eaton 1972; E. Wyllys Andrews V, personal communication, 1973) and, importantly, on the east coast of the peninsula as well. Tozzer (1941: 6) quotes Ciudad Real in his 1588 *Relación* on Ponce, referring possibly to Terminal Classic/Early Post-Classic structures near the Bay of Ascension:

> On the mainland near this bay [Ascension] and port, there are some stone buildings, from olden times, and the Indians say they were temples of the gods and idols of the lord of *Chichenitza* and when they went to *Honduras* for cacao and feathers, and other things, they passed by there going and coming to offer sacrifice to them, and there they embarked and disembarked.

It is not evident from this reference when these buildings on the East Coast were used, although it is presumed that the period may be the Modified Florescent associated with "Toltec-Maya" Chichen Itza. My guess is that the site referred to is Muyil on the inland waterway connecting Lake Chunyaxche with the Bay of Ascension (Fig. 1; Farriss and Miller 1977), despite the fact that there are no archaeological data from that site to corroborate a Modified Florescent occupation.

Ethnohistorical sources for the presence of foreigners on the Peninsula of Yucatan are confusing, for it is not clear whether the documents refer to Terminal Classic/Early Post-Classic events or to the Late Post-Classic intrusions of the Chontal Maya on the East Coast. I think that the written sources are in fact amalgamations of the history of the two periods and that one must look to mural and archaeological evidence in order to disentangle the two time periods which are often telescoped in the oral tradition.[13] Further complicating the interpretation of transcribed Maya oral tradition is the apparent tendency, by no means unique to the Maya, to mythologize past events and to make gods out of historical heroes.

In distinguishing between the vague ethnohistorical sources and reconciling these references with the data collected from Tancah–Tulum, I will refer to the people of the A.D. 770 *entrada* as Putun-Itza; those of the later A.D. 1400 *entrada*, described in the Paxbolon papers published by Scholes and Roys (1948), I will label the Putun-Nahua. In both names, the Putun are linked with the Acalan-Chontal; the second part of the labels refer to the possible ethnic identity of the intrusive peoples who called upon Putun maritime expertise to carry out their commercial and conquest activities. These somewhat arbitrary labels are used here primarily to describe two groups of Mexicanized Maya and to differentiate what seem to be two distinct intrusions into the region at different times.[14]

[12] Appendix I includes Ball's suggestion, based on unpublished data, that Coba may have been the source of the Puuc Ware characteristic of Tancah at this time, possibly reflecting Tancah's position as an outpost of Coba, at least in terms of ceramics. Puuc Wares, including Thin Slates, encountered in the secondary deposits of the Str. 44 Complex, however, were so common that I have argued that the relative quantity of Puuc Ware excavated made their importation from western Yucatan unlikely (Miller 1977a: 140). That Puuc Ware may have reached Tancah from Coba *ca.* A.D. 770 raises questions as to the origin of this ceramic type in the peninsula, an issue Ball has discussed elsewhere (Ball 1979). In this regard, it is perhaps significant that characteristic Puuc architecture with boot-shaped vaulting stones and veneer masonry is evident in partially buried structures at Coba, as well as at Tancah and Xelha. Publication of the Coba investigations will bear on the issue of the relationship between Coba, Tancah–Tulum (including Xelha), Western Yucatan, Chichen Itza, and the Peten at this time.

[13] The process of telescoping events related in oral traditions is described for Africa in Henige (1974). I am grateful to Lee Cassanelli for pointing out to me the applicability of Henige's work to the body of ethnohistorical material from Yucatan, most of which is transcribed oral tradition.

[14] It is becoming increasingly clear that the putative Putun phenomena refer to several distinct historical-cultural changes detectable in regional sequences throughout the Maya area beginning as early as the eighth century. I want to stress here that my adaption of the terms "Putun-Itza" and

Fig. 104 Mural from the inner room of the Temple of the Warriors at Chichen Itza showing a seacoast town, in front of which warriors are being transported by seagoing canoes (after Morris, Charlot, and Morris 1931: Pl. 159).

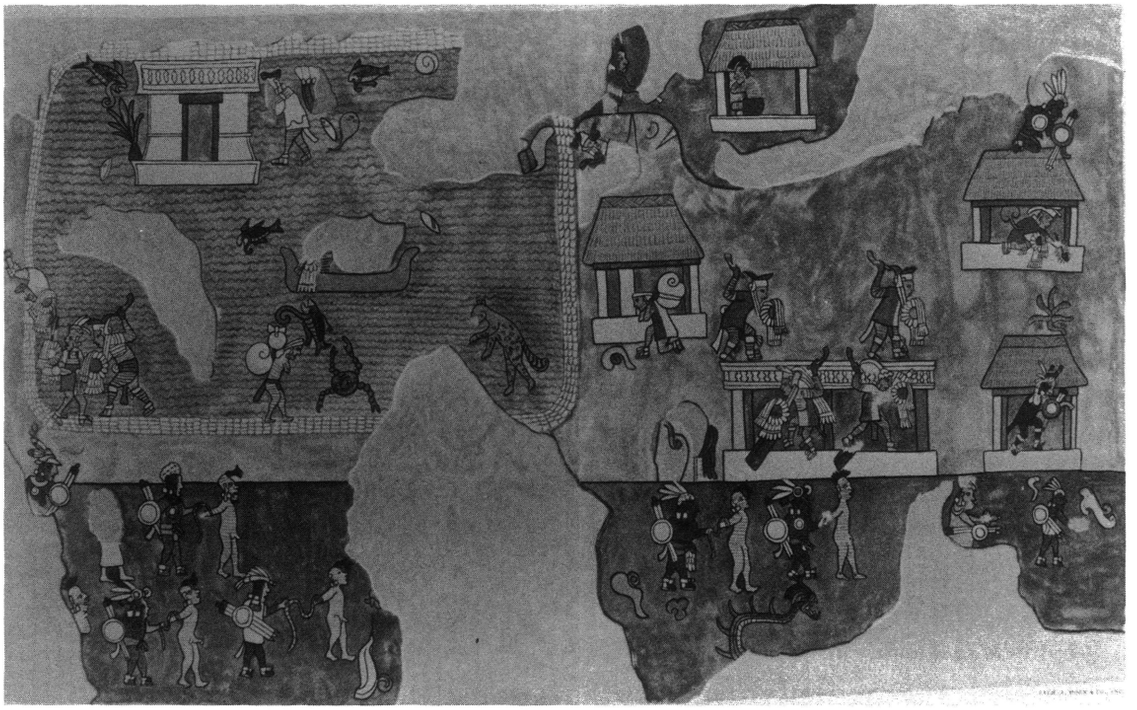


Fig. 105 Mural from a portico of the Temple of the Warriors at Chichen Itza. An attack on a seaport settlement is shown in the upper two-thirds, with an aftermath of a battle and the leading off of the vanquished in lower third (after Morris, Charlot, and Morris 1931: Pl. 139).

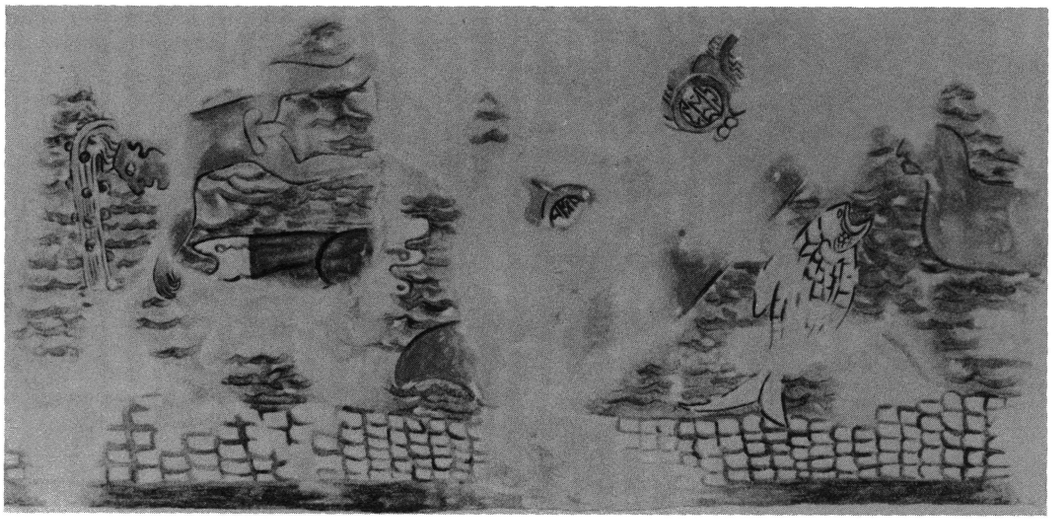


Fig. 106 Mural fragments from a portico of the Temple of the Warriors at Chichen Itza. A naval battle in seawater next to a stone wall is shown. A war canoe with round shields with geometric designs lining the gunwales appears overturned in the water (after Morris, Charlot, and Morris 1931: Pl. 146).

The Ponce account cited above may very possibly refer indirectly to the earlier Mexicanized-Maya influx associated with the *ca.* A.D. 770 *entrada*, the Putun-Itza intrusion. And I suggest that the account could further refer specifically to the material remains of the "little descent" described in the Chilam Balam. This mythologized account of the founding of Chichen Itza by foreigners coming from the East: "*Ti u talelob ti likin ca uliobe*" ("They came from the east when they arrived") could therefore be based, in part, on events that occurred during the Terminal Classic Period. Admittedly, the sources are as fragmentary as they are vague, but a pattern does emerge that suggests the East Coast as a place of invasion for a group that eventually controlled Chichen Itza for a time.

Another account seems to relate even more directly to the Terminal Classic "little descent," or arrival of the Putun-Itza on the east coast of Yucatan. In response to the request for local histories in Philip II's royal questionnaire, the 1579 *Relaciones histórico-geográficas de las provincias de Yucatán* includes the history of Ekbalam, a village north of Valladolid (*Relaciones de Yucatán* 1898–1900, II: 160–63). In relating their origins, the inhabitants of Ekbalam (also written Tiquinbalon) stated that their town was founded by a "foreign" conqueror who came from the east, presumably by sea via the East Coast. The leader of the invading force, known as "Ekbalam," was said to have brought with him a cult of idolatry previously unknown in the area. Another reference to the invasion of Yucatan by strangers from the east is found in the same collection of *Relaciones* (*Relaciones de Yucatán* 1898–1900, II: 77–

Fig. 107 Mural fragments from a portico of the Temple of the Warriors at Chichen Itza. Captives are being taken in the water by black painted warriors (after Morris, Charlot, and Morris 1931: Pl. 147).

"Putun-Nahua" are merely labels used to describe two different regional phenomena at Tancah–Tulum. It is important to bear in mind that ". . . the Putun have been credited with so much military, trading and cultural activity that they loom as supermen in the archaeological literature on the Maya. I think that the Putun phenomenon needs a great deal of research in the ethnohistoric and archaeological records to clarify their role in Mesoamerican history. Perhaps the Putun were really several related yet competitive militaristic trading groups of various non-Peten ethnic origins all hell bent on filling the vacuum created by the collapse of the Maya Lowlands" (Miller 1977b).

78). Roys (1957: 50) translates this recorded oral tradition from Motul:

> The first lord of this town of Motul, of whom its natives have knowledge, was a captain named Sac-("white"-) Mutul, which means white man, as I have noted. He came with people from the east to seek where to settle; and they do not know whence he came, except that he was an Indian. He arrived at the site where this town is and populated it with his people. There he made his home and abode, and he and his descendants held the lordship for 140 years. . . .

Noteworthy in these two accounts is that both towns are named after leaders said to have come from the east. Furthermore, one leader is associated with the color "black" and the other with "white." Although directional associations would link west with black (*ek*) and north with white (*sac*) and, therefore, would seem to contradict the putative easterly associations of these allegedly historical characters, color does not seem to have directional significance in these instances. Rather, since *ek* and *sac* are associated with the names of military captains, it is possible that black and white may refer to actual body paint applied before battle. Indeed, views of Pre-Columbian battle scenes surviving at Chichen Itza (Figs. 104–107) show that combatants assumed distinctive body paint, probably to distinguish themselves clearly from the enemy in the confusion of the close combat that characterized Maya warfare (see Miller 1979). The color associations of these historical founders seem to relate to their military identity, a likely explanation given their reputation as conquerors. Thus, Ekbalam and Sac-Mutul were most probably names of two "Captains of the Itza" who, among many, vied for the spoils of northern Yucatan during the Terminal Classic Period. I submit that these two military leaders may have led invasions into the Peninsula from the East Coast.

The mural inside the Terminal Classic/Early Post-Classic Structure 12 at Tancah (Pls. 6, 7), shows Chaac with an offering in one hand and a hafted axe in another. I have suggested elsewhere (Miller 1977a: 122) that this mural refers to two things: 1) a traditional Maya *ch'a chaac*, a "summoning the chaacs" ceremony, i.e., the rain-making ceremony necessary for the corn crop; and 2) actual historical events in the form of seaborne raids on Tancah by Terminal Classic Mexicanized-Maya (Putun-Itza). If there is a historical element in this stock Maya ritual theme of *ch'a chaac*, obviously the people who had the Tancah Structure 12 mural painted flattered themselves in linking their coming with beneficial rain.

While on the subject of invasion, I want to turn to consideration of its possible seaborne aspect. In a previous publication (Miller 1977a: 114–123), I argued that there is evidence for Pre-Columbian piracy during the Terminal Classic/Early Post-Classic Period at Tancah. Sanders has suggested (1960: 209–212) that Tancah Group A (which was exposed to the sea) had been abandoned during the Terminal Classic/Early Post-Classic and that Group B (located farther inland) had been established at this time. Elsewhere I have interpreted this putative settlement shift as a response to threats from the sea by marauding Putun pirates (Miller 1977a: 114–123). Although the settlement-pattern study of Tancah, which would have focused on this problem of putative population shifts at Tancah by charting out the changing population densities of the site through time, could not be carried out for local political reasons, piracy may indeed have been an aspect of the "first *entrada*." Eventually these hostilities may have coalesced into one forceful outside presence which is reflected in the new architectural and mural-painting style found at Tancah during the Terminal Classic/Early Post-Classic Period. A Chacmool from the site of Santa Rosa, just south of Ascension Bay, may also be associated with this *ca.* A.D. 770 *entrada* (Lothrop 1924: Figs. 175, 176; Pl. 27B).

It is possible that these first-wave Putun-Itza introduced the mural tradition represented by the painting of Tancah Structure 12 at the end of the general "time of trouble" which the Maya area as a whole experienced in differing degrees during the last gasps of the Classic Period. The Terminal Classic/Early Post-Classic murals from Tancah Structure 12, Tulum Structure 1-Sub., Xelha, and Coba may be reflections of the influence, extended by sea to the vulnerable eastern flank of the peninsula, of the Mexicanized-Maya who moved toward conquest from their home in the buffer zone between the Mexican Highlands and Maya Lowlands. Such a hypothesis needs further evidence to be tested and is offered here only as a possible explanation in light of the data currently available. In the meantime, it is tempting to hypothesize that the abundant presence of Puuc Slate Ware at Coba (Robles C., personal communication, 1977),[15] the Puuc architectural style there, and the fact that the Classic Maya tradition of erecting stelae was cut off as early as 9.12.10.5.12 (A.D. 682) all may have had something to do with a putative eastern flank attack on the peninsula of Yucatan by those forces that eventually established a stately base at Chichen Itza.

Although Chaac, or God B,[16] cannot be uniquely associated with Highland Mexico, much less with the Putun-Itza, it is clear that Chaac is more prominently represented in architectural sculpture during the end of the Classic Period in the Northern Maya Lowlands than in the Southern Lowlands, perhaps as a result of the increasing influence of Mexican or Mexicanized-Maya people in the area during this time. The five figures wearing Chaac masks in the mural of Tancah Structure 12 (Pl. 6), three of whom hold Chaac's hafted axe, certainly point to the prominence of this deity there. The depiction of a figure holding a feathered serpent is reminiscent of figures associated with

[15] Brainerd (1958) reported relatively few Puuc Slate Wares from Coba, but this is clearly a result of a biased sample.

[16] Stelae 3 and 4 at Izapa depict a Chaac-like figure: a long-nosed deity or deity impersonator holding an axe above his head (Norman 1973: Pls. 5, 6, 7, 8). Chaac, therefore, is clearly an ancient Mesoamerican deity represented in the material culture of the proto-Maya and the Maya in lowland regions.

serpents portrayed in murals at Chichen Itza, which are ultimately much influenced by Highland Mexican iconographic and stylistic traditions. It is possible that the feathered figure shown in the Structure 12 mural refers to the *Altiplano* Quetzalcoatl cult. Although there are Classic Maya representations of this deity or of his priest impersonators (Kelley 1965), the presence here of a Quetzalcoatl-Kukulkan image *ca.* A.D. 770 is an argument for an essentially non-Maya presence on the coast at this time.

The blue painted Chaac figures in the mural of Tancah Structure 12 (Pl. 6) are shown presenting ceramic forms identified as Altar Fine Orange Ware, and Ball has pointed out (personal communication, 1977) that it was manufactured far from Tancah, on the western side of the peninsula. This might imply that these warrior figures are also merchants, with their imported vessels referring to their place of origin. The merchant associations of the mural may not be as far-fetched as they first seem, for we know that during the Late Post-Classic warrior-merchants constituted an aspect of the Culhua-Mexica or Aztec trading system known as the *pochteca*: "And as they traveled the road, they went girt for war" (Sahagún 1959, Bk. 9: 17). If a *pochteca* model of trade can be applied to periods earlier than the Late Post-Classic, and if the effects of the *ca.* A.D. 770 entrada on Tancah material culture is indeed indicative of Mexicanized-Maya influence on the East Coast, a long-distance trading network may have been extended by means of something like an incipient *pochteca* system. If so, this system may have been a prelude to conquest. Such considerations do not obviate the concomitant occurrence of piracy suggested above, for the combination of trade and piracy between established states has occurred in many different parts of the world at different times, including our Caribbean region during the Colonial Period.

Other evidence for an East Coast *entrada ca.* A.D. 770 is found in the Temple of the Warriors at Chichen Itza, with its precise escort of warriors, merchants, and priests carved in low relief on the sides of the square pillars mustered at its base. Murals decorating the walls of the portico and inner room illustrate a narrative sequence of events; the inner-room mural shows a seacoast trading scene, and the portico shows a coastal settlement under attack along with details of naval battles (Figs. 104–107) (Morris, Charlot, and Morris 1931: Pls. 139, 146, 147, 159).

Simultaneously depicted in the portico are two stages of a raid on a seacoast settlement (Fig. 105): the defense of a village along a body of water and the capture of prisoners from that settlement. The upper two-thirds use two kinds of perspective to differentiate two places of military conflict: one is focused on a stone-wall-bordered marine environment, shown in bird's-eye view and simplified as a rectangle; the other is a village siege scene, represented in profile view. Skirmishes take place on the body of water. Warriors painted with horizontal stripes face an unseen enemy to the left of the mural: one warrior falls wounded; another starts to run, looking back, while still another raises his *atlatl* in a defensive pose, holding his ground on the stone rampart. Behind, a person with belongings on his back flees from the unseen threat.

There is little doubt that the water is the sea, since the parrot fish, sea crab, manta ray, and marine molluscs depicted are all saltwater creatures. That the body of water is enclosed is the combined result of pictorial convention—a canon followed by muralists to show a body of water—and a desire to show that the saltwater is bordered by a stone wall, as one would expect to find at a port facility. Left of center, near the top of the rounded rectangle, is a distinctive temple-like structure, supported by a low platform. The structure exhibits a battered basal molding, flat roof, and a recessed or inset lintel panel characteristic of East Coast architecture during the Post-Classic Period. The upper façade is decorated with a row of bulbous vertical elements ("spools") reminiscent of the convention for rendering perishable pole construction in stone, visible at the "Mercado" at Chichen Itza (Ruppert 1943: Figs. 16b, 17c). Similar treatment of the upper façade forms part of the structure shown right of center where four striped warriors assume defensive postures on top of and in front of what seems to be the most important building of the village. It is in this part of the mural that we see the enemy: black-painted warriors attack the village and are shown on top of and setting fire to the thatch-roofed structures of the settlement. One striped defender is shown fleeing with his belongings, having given up battle to the invaders.

Indeed, the lower third of the mural confirms that the black-painted invaders have won, as the warriors lead off their vanquished striped adversaries, who have been stripped of their clothing and are bound for the sacrificial stone which is shown in another section of the same mural (see Morris, Charlot, and Morris 1931: Pl. 145). The animal totems of the captains leading the two adversaries are represented: a jaguar superimposed on the marine rectangle and a feathered serpent at the lower right (Fig. 105). Which totem pertains to which side is by no means clear, although the superimposition of the jaguar upon the water would suggest that this totem is associated with the seaborne raiders wearing black battle paint (Ekbalam?). That the raiders came by sea is supported by the depiction of the canoe with a partially effaced contingent of warriors on board. Warriors in canoes are more clearly shown in the seacoast village scene illustrated in Figure 104, where we also see a temple of that seacoast village associated with the same feathered-serpent totem shown in the battle scene of Figure 105, suggesting that the feathered serpent is associated with the losers. In Figure 104 the black-painted warriors are portrayed being "peacefully" ferried along a seacoast settlement, which might suggest that they are trading warrior-merchants laying the groundwork for future military intervention. Such an interpretation gains credence in view of the fact that the Figure 104 mural appears in the inner room of the Temple of the Warriors, in an architectural position graphically suggesting an earlier sequence in

time: the inner room depicts events leading up to events portrayed on the walls of the portico.

The scenes of these murals clearly refer to the coastal waters of the Yucatan peninsula. Although it is possible that only a generalized seacoast is being portrayed, I feel the murals show a specific geographical locus, especially in view of the glorification of Mexicanized-Maya history evident in the Temple of the Warriors; it is a building commemorating past events, while, at the same time, mythologizing them as a material expression of political hegemony. Since it was built by the faction in control at Chichen Itza at the time, the biased history of the controlling interest must be immortalized on its walls. Traditionally, these controlling interests at Chichen Itza go by the name Itza. Thompson (1970: 17–18) has suggested the Campeche–Tabasco coast as the locus of the scenes, but for reasons charted above, I feel the east coast of the peninsula is being portrayed.[17] Furthermore, I feel that the seacoast settlement being attacked is the most desirable prize on the East Coast: the large, well protected inlet and site with splendid Terminal Classic paintings that we now call Xelha.

The remains of the Maya port of Xelha reveal a stone wall at the edge of the peninsula jutting into the inlet of the same name, where parrot fish, manta rays, marine crabs, and molluscs thrive in the nutrient-rich waters that are fed by innumerable fresh water *ojos de agua* emerging into the salt water of a Y-shaped inlet (Fig. 108). Underwater test excavations conducted during the summer of 1975 near the defensive stone wall of the peninsula produced ceramic refuse belonging to the Terminal Classic Period, as well as evidence that may possibly relate to the kind of naval conflicts and burning portrayed in the murals from the Temple of the Warriors (Farriss and Miller 1977). One of the underwater pits produced a number of stones of the type used in construction as rubble fill, which were fire-blackened, suggesting the possible destruction of a building by fire on the nearby peninsula (Fig. 108). In addition, there was a charred timber, preserved in an anaerobic environment and protected from the wood-boring teredo worm by five centimeters of sand. Associated with the charred timber and rubble were Puuc Ware sherds. The charred timber was left *in situ* for later excavation of its entire context. Until further information can be recovered and the Puuc association confirmed, we can only speculate that this part of a burnt structure may be Terminal Classic in date and that it was destroyed as a result of the kind of intrusive Putun-Itza military activity celebrated at Chichen Itza.[18]

The Early to Middle Post-Classic time in the period in the Tancah–Tulum region produced no new architectural or mural forms. But there are, within the overall continuity, perceptible changes in masonry technique and mural-painting design. Tancah Structure 44 is a Middle Post-Classic building which serves well to illustrate the sliding-off of traditions introduced earlier. In fact, this mid-period of the Post-Classic, in terms of architecture and mural painting, qualifies to be called "decadent" more than does its beginning and end.[19] We see in the masonry of Tancah Structure 44 an increased use of percussion-cut stones and spalling to fill in the spaces formed by poorly fitting facing stones, as well as an increase in the use of stucco, which would have covered the uneven effect of combining roughly cut percussion stones and spalling with reused (from the Terminal Classic) well cut "pecked" masonry. The vaulting in Structure 44 is much cruder than that in the Terminal Classic/Early Post-Classic buildings at Xelha, such as Structure 26-Sub. or Structure 12 at Tancah; clearly the architects depended on a thick layer of stucco to smooth over the irregularities of the masonry used to construct the vault in Structure 44. The murals of this Middle Post-Classic building are executed in a style and iconography that are within the tradition established by such earlier murals as those of

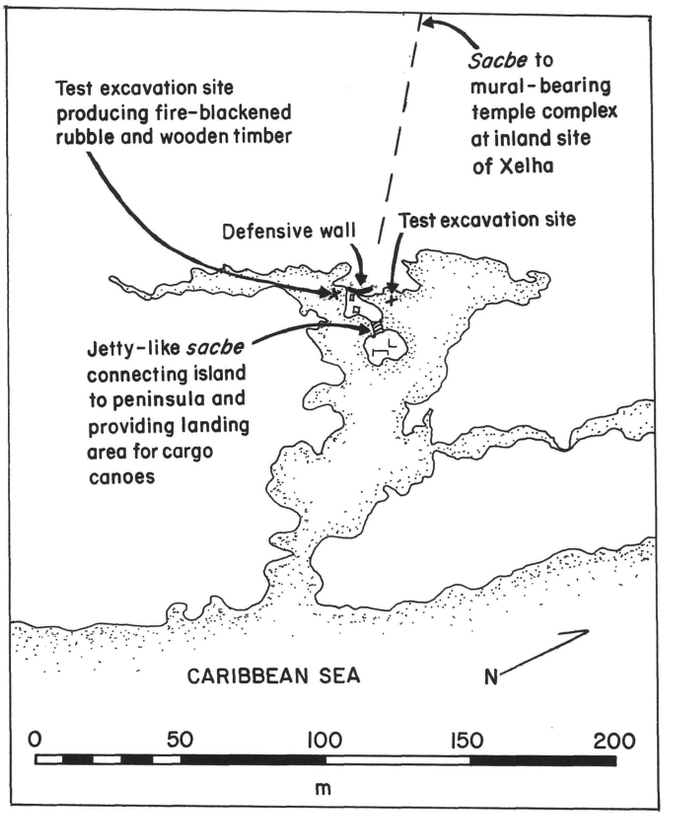


Fig. 108 Xelha inlet drawn from aerial photographs.

[17] Thompson (1970: 11) argues that Pole was the East Coast port of entry for the Itza. The Pole mentioned in the Chilam Balam as the port of Cozumel is not applicable to the Itza or to the *ca.* A.D. 770 *entrada*, but rather to the late one occurring *ca.* A.D. 1400.

[18] See Miller (1977b; 1979) for further discussions of the relationship between the Putun and Itza.

[19] Appendix I includes Ball's suggestion that, ceramically, Tancah was abandoned sometime between A.D. 1050 and 1200, although the architectural and mural evidence does not bear this out. Nevertheless, Ball's conclusion—based on a small ceramic sample—may be a reflection of the decline I perceive in the architecture and painting during the interval between the *ca.* A.D. 770 *entrada* and the *ca.* A.D. 1400 *entrada*.

Structure 12. However, the size of the painting has been reduced and standardized as if to conform to the design of the codex-style model books which probably preserved the earlier traditions, for the earlier paintings of Structure 12 at Tancah were covered up during the Middle Post-Classic by paintings that have since been destroyed.[20] Whenever books translate architectural design, a transformation of the kind seen in the Structure 44 murals, vis-à-vis the Structure 12 mural, takes place (cf. Pls. 6, 8–12). This process of transformation of form by media is not uncommon in the history of art.

The iconography of the Middle Post-Classic murals of Structure 44 suggests that the occupants may have been involved in an ongoing long-distance trade network, established during the Early Post-Classic Period. Evidence for direct or indirect mercantile activity at Tancah during this time can be seen in the murals which show God C prominently with an offering in his hand. Tozzer (1941: 107) and Amalia Cardos de Mendez (1959: 52–53) suggest that God C, Xaman Ek or the North Star, may be associated with a merchant deity. And Tozzer (1941: 107) has pointed out that Ek Chuah, another merchant deity, is shown on occasion with the head of God C. The link between merchants and Ek Chuah, god of cacao—a major item in the circum-peninsular trade of the Late Post-Classic (Scholes and Roys 1948)—is certainly clear enough. The God C-North Star association is less obvious, although the polar star's importance as a navigational aid is certainly a possible link to merchants. In this sense, God C may have served the same function as did St. Christopher, the patron saint of travel among Roman Catholics. It is possible that this deity, shown on the wall of Structure 44 (Pl. 12), was the patron deity of the building's occupants and that they were engaged in mercantile activity which had been established in the area as a prelude to conquest during the Terminal Classic/Early Post-Classic Period. If so, it is a clear example of the linking of cult with commerce brought by outsiders into the Tancah–Tulum region. But it is also possible that these crude codex-style paintings represent nothing more than a Middle Post-Classic copying of an illustrated codex and that drawing pictures of merchant deities represented the extent of their actual mercantile activity at this time.

THE SECOND ENTRADA: *ca* A.D. 1400

We have already seen in Chapters II and III that the Late Post-Classic Period was initiated *ca.* A.D. 1400 and marked by an introduction of new ceramic, architectural, and mural forms. The sudden appearance of the style and iconography of the murals of Tulum Structures 5 and 16, without antecedents in the area, suggests the arrival of a highly trained group of mural specialists from outside the Tancah–Tulum region. Does this then imply that the pattern of influence established *ca.* A.D. 770 was repeated *ca.* A.D. 1400?

The new mural-painting style and iconography does suggest direct or indirect foreign influence. I have argued that this post-1400 style, characterized by a predilection for many small areas of picture surface, is reminiscent of mural and manuscript painting from south central Mexico during the Late Post-Classic Period, particularly from Mitla (Fig. 109). This style of painting, with distinctive regional variations, is also found in the Mexican Highlands and as close to Tulum as Santa Rita on the Caribbean coast of Belize (Fig. 110). So pervasive throughout Mesoamerica is this unified style that Robertson (1970) has called it "the International Style of the Late Post-Classic Period." Iconographically, the murals of Structures 5 and 16 at Tulum are linked with those from Mitla (Fig. 109) and Santa Rita (Fig. 110) and with the "Mixtec" codices by the figural formula of a standing and a seated figure confronting each other and transferring huge vertically oriented offerings and by such very distinctive motifs as sky bands, including what Eduard Seler called "eye of light" or "eye of rays," the Venus-Xux Ek motif, and the twisted-cord motif.

The important point to remember here is that while the "International Style" and iconography of the Late Post-Classic is pervasive throughout Mesoamerica after 1400, it is most commonly associated with south central Mexico and appears without antecedents *ca.* A.D. 1400 in the Tancah–Tulum region.

Evidence indicates that the innovative mural-painting style of the Late Post-Classic may have been introduced by people who forcibly replaced the style of the Middle Post-Classic, which was in turn derivative of the style and iconography introduced during the Terminal Classic. Such evidence is in the form of Late Post-Classic mural fragments superimposed on the Middle Post-Classic murals of Tancah Structure 44. Partially covering the black-outline painting of the corn god shown in Mural 2 of Room 1 (Pls. 10, 11), identified as belonging to the Middle Post-Classic Period, are small fragments of painting in a style totally different from that in which the corn god is painted.[21] Close examination of this superimposed painting style has shown it to be similar to that of the murals associated with Structures 5 and 16 at Tulum; there are black outlines and blue knot motifs in the surviving fragments, which are leitmotifs of the Tulum mural-painting style. The many small areas filled by lines in these fragments are in marked contrast to the large, flat, simply outlined areas of the Middle Post-Classic painting underneath. Apparently the small upper-

[20] José González Avilés (personal communication, 1974), the former owner of Rancho Tancah, states that superimposed painting layers of the Structure 12 mural at Tancah (Pls. 6, 7) were removed in 1934 by members of the Mexican Scientific Expedition. There is no mention of this in the publications or in the reports of this expedition that are on file at the Instituto Nacional de Antropología e Historia.

[21] In a previous publication (Miller 1973c), I did not mention the existence of two painting layers in this mural. During February of 1976, I discussed with Alfredo Barrera Rubio in Merida the evidence for distinguishing two distinct painting layers; the conclusions are published in Barrera Rubio (1976).

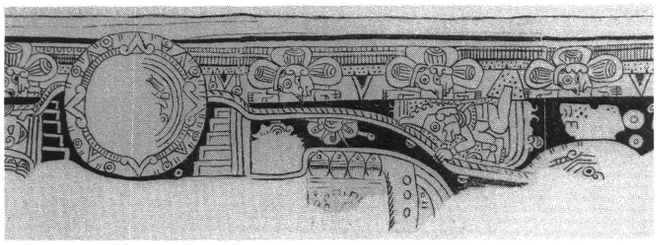


Fig. 109 Detail of a mural from a recessed lintel at Mitla, Palace No. 1, north side (after León 1901: Lám. 1, Núm. 5).

most fragments are the only surviving evidence of Late Post-Classic painting in Structure 44, although more examples may be hidden under the layers of calcium carbonate that encrust the inner wall of Room 1.

The superimposed mural paintings in Structure 44 represent such radically different stylistic traditions that the later one can not be seen as developing logically from the earlier. The results of an excavation below the sealed floor of Room 2 of Structure 44 further suggest that these different wall-painting styles are attributable to two different groups with unrelated mural-painting traditions. The excavation in the center of Room 2 exposed an obviously looted burial located inside the bench centered in Room 2.[22] The area covering the burial had been anciently cut into and most of the grave goods removed (Fig. 23), although a jade or jadeite tubular bead, three coral beads, two chips of worked greenstone, two human teeth, and several scraps of bone had been left behind. The looted burial area was subsequently filled with small stones and then stuccoed over and painted. This stucco could be traced to the same layer that bore the Late Post-Classic painting superimposed on the Middle Post-Classic mural, indicating that the bench repair and possibly the grave looting may have been carried out by the Late Post-Classic occupants of Tancah Structure 44.

Grave looting can be seen as the desecration of the dead and as a means of destroying the heritage and tradition of a people, which would suggest that these grave robbers were the same people who arrived on the East Coast at the beginning of the Late Post-Classic Period. Abutting Structure 44, to the south, is the ruin of a typically Late Post-Classic building, possibly erected by the Late Post-Classic conquerors of the Tancah–Tulum region.

Tulum itself is surrounded by a defensive wall, probably constructed and maintained by the bearers of the "International Style" who built the post-1400 buildings at Tulum. The defensive wall would suggest a fear of military attack; yet it is possible that the wall was not constructed to repel real attacks but instead served as a symbolic statement of dominance over the area or to define a "port of trade enclave." It seems clear that the expansive and dominating people who built Tulum after 1400 were also responsible for virtually all of the standing architecture along the entire east coast of the Yucatan peninsula from Santa Rita in Belize to Cabo Catoche at the extreme north.

While the ceremonial core of Tulum is typically Maya in its orientation around a plaza, the rest of the site is orga-

[22] Often referred to as "altars," these benches or thrones are more likely symbolic and literal seats of authority.

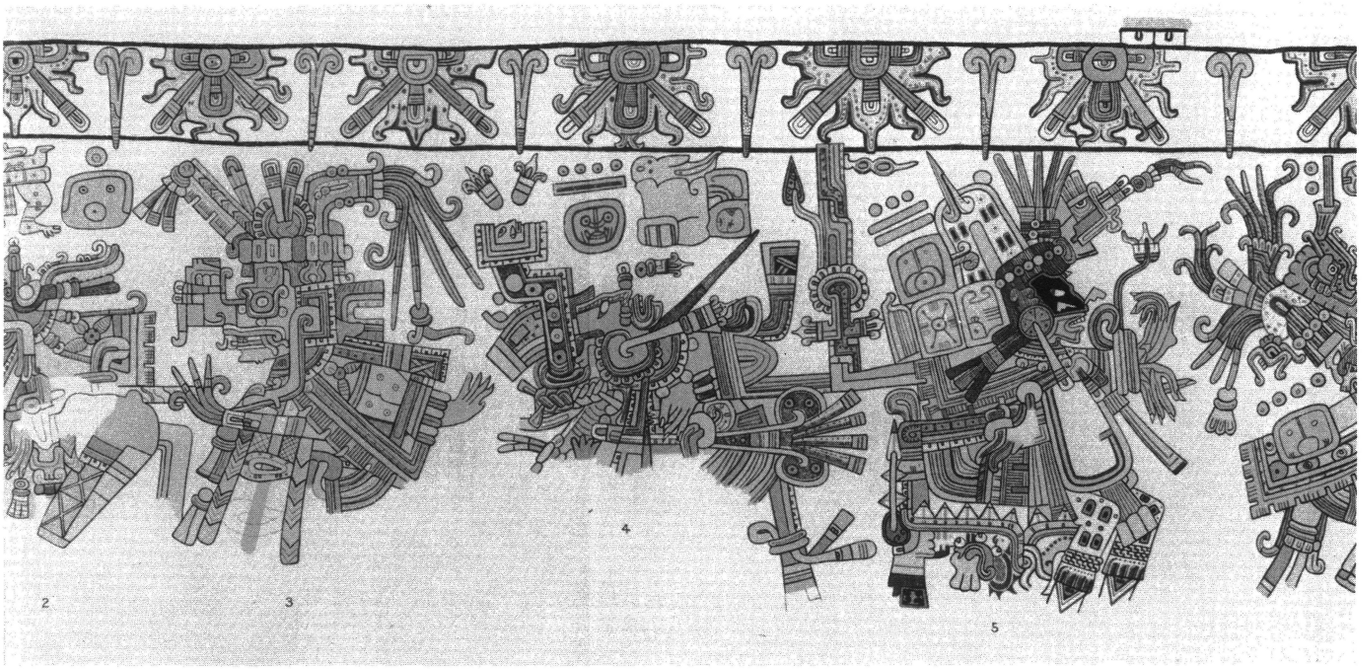


Fig. 110 Santa Rita murals, detail from the east half of the north wall, Mound 1, showing an iconography related to that of Tulum Str. 5 (after Gann 1901: Pl. XXIX).

nized along a north–south axis, not unlike the street orientation associated with Highland Mexican centers, following the model laid down at Teotihuacan.[23] It is possible that this somewhat "Mexican" street layout refers, however indirectly, to the foreign influence so vividly seen in architecture and mural painting of the post-1400 period.

Unlike those of earlier periods, the buildings of the Late Post-Classic at Tulum are built in conspicuous view of the sea. Characteristic are numerous small "coastal shrines," whose function is most satisfactorily explained as some kind of navigation marker along a coast that is virtually devoid of geological reference points; from the sea, the land appears much the same from Honduras, in the south, to Cabo Catoche, in the north.

In comparing a Late Post-Classic building of the East Coast with one of coastal southwestern Yucatan, one would be hard put to see any differences. The Cenote Cave at Tancah produced a Late Post-Classic censer ware sherd bearing a Mixtec-Aztec ray- or sky-sign (Fig. 111), pointing to southwestern Yucatan connections; a similar Mixtec-Aztec sky-sign was found on an *incensario* fragment from Isla Cilvituk A in southwestern Campeche (Fig. 112) by Andrews IV (1943: 74–76, Fig. 28g), who saw a particular significance in that ray- or sky-sign. Not knowing the Tancah Cenote Cave example, he noted that this motif appeared to be "Mixtec" and that similar motifs were to be found in the Santa Rita murals on the east coast of the Yucatan peninsula. Andrews IV (1943: 74) perceptively proposed that the Isla Cilvituk sky-sign and its occurrence in the Santa Rita murals "are not of remote influence but bespeak some very specific contact," although he was mistaken in placing Tulum earlier than Santa Rita. Because Tulum was traditionally linked with Mayapan, he was forced to this position (Andrews IV 1943: 77),[24] but solely on the basis of the evidence presented in Andrews IV's southwestern Campeche study, there is no more reason to say that Mayapan is contemporary with Tulum than to say that Mayapan is coeval with Cilvituk-Las Ruinas. Unfortunately, Andrews IV was not able to connect the Santa Rita murals with those of Tulum because in 1943 their appearance was not fully understood. Now, thanks to Dávalos's renderings, the close stylistic and iconographic relationship of the Tulum murals with those of Santa Rita can be more fully appreciated. For example, the above mentioned sky- or ray-sign (a simple A with markedly outcurving lower edges, which Andrews IV (1943: 76) described as

Fig. 111 Late Post-Classic incense burners from the Cenote Cave at Tancah showing some stucco applique still adhering. Note the ray- or sky-sign motif.

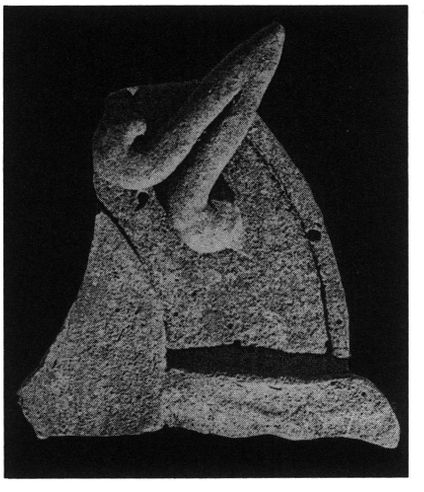


Fig. 112 Ray- or sky-sign motif from a censer found at Isla Cilvituk A (after Andrews IV 1943: Fig. 28g).

the "Mixtec form"), occurring at Isla Cilvituk A and "almost certainly contemporaneous with Santa Rita" does in fact also occur in the murals of Tulum Structure 5 as well as the column paintings of the later Structure 1. We now see clearly the visual evidence for placing the murals of Tulum Structure 5 as slightly earlier than those of Santa Rita, as well as with Cilvituk and Las Ruinas, which Andrews IV (1943: 78) dated between 1450–1525, on the basis of the "striking similarity between Santa Rita–Cilvituk art and that of the late Mixtecs." Further linking Tu-

[23] The orientation of Tulum is 17° east of north, which would qualify it as part of what Carlson (1978: 5) calls the "Central Mexican 17° E/N family of alignments."

[24] Andrews IV's "Mexican Period" (1943: 89) chronology is as follows:

I. A period represented by the remains of so-called Toltec Chichen Itza, corresponding to the Chichimec period in the Altiplano: A.D. 1200–1350.

II. A period represented by the remains of Mayapan, Tulum, and other East Coast sites, corresponding to the formative stages of Mixtec-Aztec culture in the Altiplano: A.D. 1350–1450.

III. A final phase, corresponding to what may be called classical Mixtec-Aztec culture in continental Mexico: A.D. 1450–1525.

lum with Santa Rita-Cilvituk art is the "Diving God" that Andrews IV (1943: 43, Fig. 23e) found at Cilvituk.[25]

J. Eric Thompson, like Andrews IV, had long noted that there is in Yucatan a process of exchange of artistic ideas corresponding to intertribal trade, which is suggested by the historical documents. In his article on the Putun, Thompson (1970) reconstructs the events of Putun history out of material culture and historical sources. However, the mural and archaeological evidence from the Tancah–Tulum region suggests the possibility that what has been lumped together as one Putun invasion from the east is really two, occurring more than five hundred years apart. The secondary literature on the subject has not made this distinction. For example, Thompson (1970: 11) argues that the Itza reached Chichen Itza from Cozumel via Pole on the East Coast. The *Chilam Balams* are vague about the origin of the East Coast invasion and when it occurred, although they probably refer to the earlier intrusion of *ca.* A.D. 770. Thompson cites Landa and secondary sources such as Lizana (1893: 3–4) in regard to the big and little descent legend, but these cannot be any more specific than the primary sources on which they are based.

Thompson's (1970: 12) reference to the 1618 Valladolid lawsuit belies his claim that the East Coast *entrada* via Pole has anything to do with Itza invasions. Notwithstanding the fact that the "Mexicans" are said in the lawsuit document to have actually built the "very stately edifices at Chichen Itza" (Brinton 1882: 118), the historical content of this document refers principally to events that had to have taken place after A.D. 1400, long after the fall of Chichen Itza and probably postdating the demise of Mayapan.[26] References in the lawsuit (Brinton 1882: 116) to the fragmented confederacy that was Yucatan on the eve of the Conquest and to Tumispolchicbul of Bacalar, "kinsman of Montezuma, King of Mexico," surely relate to personages of power on the Peninsula just before the Spanish arrived and contemporary with the widespread influence of that expanding state system based in the Mexican Altiplano. That the lawsuit refers to the Aztecs occurs to Brinton, but he takes pains to refute such a connection. Yet in refuting the Aztec link, Brinton (1882: 121) strengthens it by citing Landa that "a small colony of Aztecs . . . was living in the province of Canul, west of Merida, when the Spaniards conquered the country." The mention of Chichen Itza in the lawsuit is no more reason to link it to Terminal Classic Itza intrusions than to link the Holy Roman Empire with the Empire of Augustus Caesar. In fact, we are told in the document that Chichen Itza was at the time ruled by "a certain Cocom" (Brinton 1882: 117)—either Nachi or Iman?—who is known to have been an important personage in the political struggles of Yucatan during its protracted conquest by the Spanish. The Mexican influence referred to in the 1618 lawsuit has nothing to do with the founding of the Chichen Itza of the "Toltecs," as Thompson would have it, but refers instead to the foreign eastern-based invasion of some five hundred years later.

I suggest that the people who placed the "Mixtec-Aztec" sky-sign in the Tancah Cenote Cave and carved the cult of Venus glyphs there (see Chapter V), who set up a cult of Quetzalcoatl-Kukulcan as Venus as the Morning Star at Tulum, and who painted the murals of Tulum Structures 5 and 16 as well as those superimposed on Structure 44, were the Putun-Nahua who were laying the ground work, right up until 1521, for a military invasion of the East Coast by the Aztecs. I suggest that the ethnic identity of this cultural group was the Culhua-Mexica of the Altiplano; further, the cultural and economic evidence of intrusion into the East Coast after 1400, seen in architecture, ceramics, and murals, seems to have been a prelude to an actual takeover in accordance with a well established model of Aztec expansion: the *pochteca* (Chapman 1957).

Although the spread of an "International Style" of the Late Post-Classic does not prove ethnic expansion any more than does the spread of a ceramic sphere, there is, in fact, ethnohistorical evidence pointing to plans of an imminent Aztec takeover of the peninsula of Yucatan at about the time the Spanish arrived in Mesoamerica. In a *Relación de Yucatán* referring to the major Conquest Period "port of trade" in Southwestern Campeche—Xicalanco, which we know had extensive trade networks around the peninsula—casual mention is made of an imminent military attack on the Maya of Yucatan. A large army of Aztec troops garrisoned at Xicalanco was about to launch an attack on the peninsula under the leadership of a "Captain General" who was Moctezuma's brother. The attack never occurred because the Aztec "Captain General" received word in 1521 that Tenochtitlan had fallen to the Spaniards, and he died in a fit of choler. I cite below the account in which the planned conquest of Yucatan is mentioned in passing:

> . . . una sobrina de moteçuma gran señor de mexico, hija de su hermano que se llamava doña ysabel, el qual el dicho moteçuma avia enbiado por capitan general con gran numero de gente a conquistar esta provincia, e asi asento su rreal en un sitio que se dize gicalango, que esta entre esta tierra y tabasco, y queriendo ya entrar en la conquista desta tierra le vinyeron mensajeros de mexico enviados por su hermano moteçuma

[25] Two "diving gods" executed during the Late Post-Classic occupation of Tancah were found in a vertical niche on the Late Post-Classic structure added to the top of Terminal Classic/Early Post-Classic Str. 1 and on a free-standing sculpture found in front of the "shrine within a shrine" at Tancah Str. 10. Further, Andrews IV (1943: 78) noted that "late stucco work" inside Tancah Str. 6 (missing by the time we worked at Tancah) is "similar to that at Isla Cilvituk B."

Further links between the east and west coasts of the peninsula are suggested by a mold-made figurine from Jaina Island with no known chronological associations, now in the Museo de Arqueología e Historia in Merida. The figurine wears a *quechquemitl* conspicuously decorated with the year sign; in addition, the costume is decorated with a Tlaloc mask and the step-fret design.

[26] Because of the process of telescoping events when oral traditions are written, and because of the vague character of the documents that often mingle and interchange happenings from chronologically distinct periods, linking the Valladolid lawsuit with the period contemporary with Chichen Itza is not an uncommon error in secondary literature (see, for example, Lothrop 1924: 9–10).

haziendole saber como la ciudad de mexico y toda la nueva españa estava por españoles y enviole alguna rropa de españoles como fue sayo sombrero e otras preseas para que las viese e supiese de cierto como estava ya de españoles sujeto, e a este capitan le tomo gran pessar que se murio de enojo. . . . (*Relaciones de Yucatán* 1898–1900, II: 221)

That the Aztecs were planning a military advance on the peninsula of Yucatan, as stated in this sixteenth century document, has significant implications in terms of the East Coast, in view of the other data we now have. It is important to stress that the army referred to in the *Relación* is not the *pochteca* "girt for war" but rather was comprised of regular troops led by a high noble, Moctezuma's brother.[27] The presence of the Aztec *pochteca* in Xicalanco has been mentioned many times in the secondary literature, but the presence there of the Aztec army, of a different social class from the merchant *pochteca*, has to my knowledge never been fully appreciated. Given the usual Aztec practice, the *pochteca* would have established commercial ties and carried out third column military plans in advance of the regular troops. From this *Relación* evidence, one can not presume that the Aztec army had its eyes on Tulum, but there is little doubt it was very interested in the trading network of which Tulum was a part.

The seminal work of A. M. Chapman (1957: 140) implies that an Aztec *pochteca*, based in the Altiplano, could have extended a long-distance trading network that would include Tulum. The land-based merchants of the *pochteca* seem to have relied on the seafaring abilities and boats of the Acalan-Chontal (Scholes and Roys 1948: 3, 57, 93), but they surely accompanied their goods to and from Xicalanco in the circumpeninsular route, undoubtedly one of the means by which the Xicalanco-Nito connection was made. In this regard, it may have been the Aztec *pochteca* in their military aspect who were responsible for the looting detected in Structure 44 and who subsequently had the structure repainted in the "International Style" of the Late Post-Classic. The Putun-Nahua may also have made a base on the margins of the peninsula by taking over the "port of trade" of Tulum in a tactical maneuver to lay the groundwork for the subjugation of all Yucatan. Or, perhaps, Aztec warriors had already been called in to settle local disputes, as Landa and Herrera mention happened earlier with Mayapan (see discussion in Brinton 1882: 129).[28]

Although an Aztec occupation of Tulum is very speculative, we do know that the Aztecs had influence in the port of trade of Xicalanco, one margin, and were in fact about to launch from there a military attack into the Peninsula in 1521. It is certainly not inconceivable that they may have taken advantage of the trading networks established by their *pochteca* and may well have already taken the initiative of knocking off another port of trade which was extremely vulnerable because of its remote location. If the *pochteca* did not completely dominate Tulum as a port of trade in their circumpeninsular trading network, their influence was unquestionably profound and certainly must have affected the activities of what Roys describes as the Maya *ppolom*, the "professional merchant" (Roys 1939: 61).[29] We may never know what political and military maneuvers took place at Tulum in the decades prior to 1521, but certainly the material culture indicates strong outside influence, and it is most probably long-distance trade that brought the mural style of Structures 5 and 16 to Tulum. While the source for this mural style points to south central Mexico, it must be remembered that the Aztecs had controlled this area since the reign of Ahuizotl and had incorporated much of the rich pictorial tradition of that area into their imperial framework, so that, by the late 1400s, the Mixtec pictorial style of Oaxaca was closely related to Aztec pictorial art, both being part of the basic Late Post-Classic style and iconography.

Tulum as a "port of trade enclave"

Whereas there is very little evidence that a port of trade enclave may have existed at Xelha or Tancah during the Terminal Classic/Early Post-Classic Period, the existence of one at Tulum is less conjectural. Chapman's important paper (1957) does not specifically consider Tulum as a Late Post-Classic port of trade, but our data, suggesting that Tulum flourished after 1400 up to what I call the Third Entrada, raises this possibility. Tulum is on the way of putative circumpeninsular marine trading routes from Xicalanco in the southwestern corner of the peninsula to Nito at its southeastern corner; it is truly a "port of trade" as defined by Karl Polanyi (1971: 238–241).

Tulum's geographical situation and plan (Figs. 1, 9) seem to suit well the needs of a port of trade at a time when strangers trading luxury goods "were frequently at war with one another; slave raiding was constant; feuds, massacres and border violence the rule" (Chapman 1957: 114). It seems to me that such a disruptive condition, where ports of trade are necessary for the maintenance of long distance trade between early states, probably existed to varying degrees throughout the Post-Classic Period and that any hegemony or treaties in Yucatan imposed by Chichen Itza earlier and Mayapan later would have had as much meaning on the east coast of Yucatan where trading canoes plied marginal waters of Mesoamerica as did such

[27] The distinction between merchant class (*pochteca*) and the Aztec nobility (*pilli*) is characterized by Sahagún (1959: 3–8), who called the merchants "nobility by fantasy." See Chapman (1957: 120–24) for a discussion of how the *pochteca* fit into the Aztec status structure.

[28] This admittedly highly speculative reconstruction of events affecting Tulum just prior to 1521 owes inspiration in part to Andrews IV's (1943) insightful discussion of relationships between the margins of the Yucatan peninsula and their suggestion of Aztec influence.

[29] It is not necessary to single out the Aztecs as the stimulus for Late Post-Classic commercial prosperity at Tulum, for any one of the powerful states in the Altiplano during the Middle Post-Classic could have had far-reaching trade networks.

claims and treaties in the Caribbean during the Colonial Period. They all contained the implicit caveat of "no peace beyond the line" (cf. Tordesillas).[30]

In view of the themes developed in this book, what strikes me as a consistent factor cited in the literature on long-distance ports of trade in early societies is the kind of place in which they occur. Because of the above-cited dangers involved in long-distance trade, they occur in marginal areas between land and sea, or on the edges of what Polanyi (1971: 239) calls "that *alter ego* of the sea"—deserts. These are neutral areas responsive to the realities of long-distance trade in the "early state conditions" (Polanyi 1971) operative in Mesoamerica on the eve of the Spanish conquest.

> The port of trade was often a neutrality device, a derivative of silent trade, of the prehistoric Mediterranean low-walled emporium, open to the sea, and of the neutralized coastal town. . . . Thus we find the port of trade as a universal institution of overseas trade preceding the establishment of international markets. It was, as a rule, situated on coastal or riverain sites . . . on the border of two ecological regions. . . . (Polanyi 1971: 238–239)

The plan of Tulum (Fig. 9), walled on three sides and open to the sea with a beach area where canoes could land their goods, invokes possibly analogous situations in ancient Mesopotamia as well as in ancient Europe and in the Mediterranean basin (the Babylonian *Kar*; the northern European *wik*; the Mediterranean *emporia*). Herodotus describes *emporia* on the Mediterranean coasts as:

> semi-enclosed spots open toward the sea and showing ruins of an altar, separated only by a low stone wall from the background area. . . . The low wall did not by itself offer defense against attack, it merely indicated the area to which the protection of the altar and the "peace" of the *emporium* extended . . . the term *emporium* conveys a meeting of traders, located outside the gates of a town, or even on an uninhabited coast. (Herodotus IV, 196 *in* Polanyi 1971: 243)

Given this description, the role of Late Post-Classic Tulum as a "port of trade" as defined by Chapman (1957) and Polanyi (1971) seems more certain in view of the following factors:

1. We know Tulum to have been built on a high, exposed, previously uninhabited (except for Structure 1-Sub.) area, open to the sea and surrounded by three walls on its landward side.
2. Tulum was built outside the Maya site of Tancah[31] which we know to have been long established before the founding of Tulum.[32]
3. Tulum qualifies as the kind of place where a port of trade would develop: "in politically weak spots, such as small kingdoms near the coast, or chieftain's confederacies, since, under archaic conditions, strangers shunned territories that were incorporated into military empires" (Chapman 1957: 116).

Herodotus's mention of an altar as implying a sacred function of trading enclaves is also suggestive of the Tulum situation. With buildings obviously dedicated to cult activity, the sacred quality of the place, involving beliefs shared by all the trading parties, might have contributed to insuring peaceful co-existence while precious luxury wares were exchanged, transshipped, or otherwise dealt with. In this regard, the concept of a trading place existing tenuously on the edge of the sea, where foreigners sharing the same cultural values could meet on neutral, sacred ground, fits in well with my interpretation of Late Post-Classic Tulum iconography as expressing a cult of liminality, dedicated to transitional states such as birth, dawn, and the heliacal rising of Venus.

As for Tulum's wall and what it implies about long-distance trade, it is indeed a formidable structure, well capable of serving as an effective bulwark against attack. It could have served as a political marker for both a neutral trading zone and a sacred zone, and, at the same time, served as a defense in case the established rules of trade and cult were disregarded by peoples outside the Mesoamerican sphere of influence.[33]

THE THIRD ENTRADA: A.D. 1518

The east coast of Yucatan had already absorbed two major waves of foreign influence over a period of six centuries by the time the Spanish appeared on the eastern horizon in 1518. It is possible to reconstruct in some degree, through the extant historical sources, how the arrival of the Spanish affected the life of the Tancah–Tulum Maya.[34] More than anywhere else in Mesoamerica, the Spanish met with a pol-

[30] Signed in 1494, the Treaty of Tordesillas set up an imaginary line extending from pole to pole 370 leagues west of the Cape Verde Islands and dividing the non-Christian world into two parts controlled by Spain and by Portugal (Parry 1967: 47). While Spain claimed that the treaty gave an "indefeasible" right to the Caribbean, European rivals for colonial territories in the New World agreed that whatever treaties might exist between them in Europe, the Caribbean was fair game; *corsarios* would be:

> dealt with as pirates without compromising the peaceful relations between nations. Thus it was accepted that there was "no peace beyond the line." . . . Whatever might be happening in Europe, violence done by either side to the other beyond those limits should not be regarded as a breach of the treaties. . . . (Newton 1966: 122)

[31] The reverse process happened during the Colonial Period when conditions for the maintenance of a port of trade enclave broke down due to Spanish interference. With long-distance trade no longer possible because of the disruptive events in the Gulf of Mexico from 1519–1521, Tulum was abandoned and Tancah became the Early Colonial Tzama located inland and protected from the harassment of *corsarios luteranos*.

[32] Perhaps the Xelha peninsula (Fig. 108) could likewise have been an analogous port of trade vis-à-vis Xelha inland during the Terminal Classic/Early Post-Classic Period.

[33] It is possible that the East Coast was periodically troubled by such groups as the Caribes or peoples from Central America, referred to in the Chilam Balam of Chumayel as "foreigners without skirts" (Roys 1933: 142).

[34] This section incorporates material and ideas supplied by N. M. Farriss (Miller and Farriss 1979).

icy of openness and nonviolence on the part of the Maya, a policy which, I believe, had its roots in a traditional receptivity to foreign ideas and people. The documented Spanish *entrada* on the East Coast gives us insight into the kinds of reactions the Maya may have put up in the face of earlier foreign intrusions into their territory.

Despite the open East Coast Maya attitude toward outsiders, the influence of the Spanish was of an essentially different order from that of the Putun-Itza and the Putun-Nahua, and one to which the Maya could not respond as in the past. While all three groups were bent on commercial, political, and military gain, the Spanish *entrada* was essentially different from the earlier ones. The structure of society envisioned by the Spanish was so very alien to that of the Maya that both could not co-exist. One had to go, and this is precisely what happened: by 1668, the Tancah–Tulum region was completely abandoned, after succumbing to the final effects of "culture shock." Even the ecumenical East Coast Maya, long used to foreign intrusions, could not assimilate the Spanish ways into their pre-existing social fabric or oppose them by any effective form of passive resistance. Ultimately, it was the Spanish destruction of long-distance trade that ruined the East Coast prosperity; the Colonial history of the Tancah–Tulum region is one of steady decline to complete abandonment.

Considering the fundamentally disruptive nature of the Spanish conquest, one would expect to find that mural painting stopped altogether, since it reflects a workshop tradition patronized by the established power and elite. But, if the effect of the Spanish conquest on the East Coast was nonviolent, as I believe it was, the possibility of the continuity of the Tancah–Tulum mural tradition into the Early Colonial Period must be considered, and I think it is possible to predict what the mural style of the Early Colonial Period would be like. There would have been a disruption in the workshop traditions. The artists and their patrons would have survived for a time in the region, because the demise of the East Coast was the result of indirect rather than direct effects of conquest. But the old power and wealth would have declined, and one would expect to see a decadent process at work in mural art, an attempt to maintain the former glory but with a decided loss of vigor. In fact, this seems to be what happened. At Xelha Structure A, we see a derivative and mannered art style which betrays the apparent historical fact that these paintings were executed by artists who inherited a disrupted Tulum painting tradition (Pl. 46).

The existence of Early Colonial mural painting in the Tancah–Tulum–Xelha region implies a nonviolent conquest of the East Coast. Unlike much of the rest of the Peninsula, which suffered a long and often brutal conquest, Cozumel and the adjacent east central coast were brought under Spanish domination with scarcely any bloodshed. The early explorers who set out from Cuba in search of slaves for plantations there skirted the East Coast, and Grijalva's 1518 expedition may have stopped in front of Tulum. According to the account of the probable sighting of Tulum that compared it to the "Towers of Seville,"[35] the site was occupied by Maya who "raised banners up and down" upon the approach of the ships. It is not clear why the Grijalva expedition did not land at Tulum or anywhere else on the densely inhabited East Coast, although I suspect that the reefs and surf of that windward coast would have been a major deterrent to a small landing boat.[36] The protected lee coast of Cozumel did offer safe landing possibilities, and a series of disembarking parties from expeditions originating in Cuba during the early sixteenth century did venture onto Cozumel.

Neither Hernán Cortés, during his stopover in 1519 on the way to the conquest of the Aztec empire, nor the Adelantado Francisco Montejo, in his first *entrada* of 1527–1529, nor Montejo's nephew, in the final phase of the conquest in 1543, encountered any concerted opposition. Cooperation and sometimes flight were the usual initial reactions, changing into passive resistance or sporadic threats of hostility when Spanish demands became excessive (Chamberlain 1948: 15, 35–47, 227–228). Only one overt act of retaliation—the massacre of a group of stragglers left behind on the coast for the march inland—has been recorded (Chamberlain 1948: 58–59). Consequently, the area also escaped the savage military campaigns that devastated the Uaymil-Chetumal province to the south and the severe reprisals in the Cupul province to the west and north after the Great Revolt of 1545–1547.

The central East Coast escaped the destructive effects of conquest which surely would have laid to waste many of the extant murals on buildings in use at the time of the Conquest. Also, the manner in which the area avoided the debilitating effects of conquest gives us an insight into the patterns of behavior that the Maya had already developed to deal with outsiders and that may have been operative during the two previous *entradas*. We have detected the long and close contact of the East Coast Maya with foreigners from the Central Mexican Highlands and intermediate areas on the basis of material remains as well as recorded oral traditions. Perhaps, through this contact, they had already learned the policy of passive resistance, a policy that the rest of the Colonial Maya were to develop only over time.

The relative neglect by the Colonial authorities has resulted in a spottier written record for the East Coast than for areas of more direct concern to the Spanish imperial system. Nevertheless, it is possible to reconstruct at least the outlines of the Post-Conquest period of the Tancah–Tulum zone.

First of all, we can establish, with a fair degree of certainty, that the Colonial site of Tancah is the Tzama (also

[35] See Menéndez (1958) for the account by Grijalva's chaplain, Juan Diaz.

[36] Where possible, the shallow-draft Pre-Columbian canoes used for trading and war surely traveled inside the barrier reef of the East Coast, an option not available to the relatively deep-draft Spanish caravels.

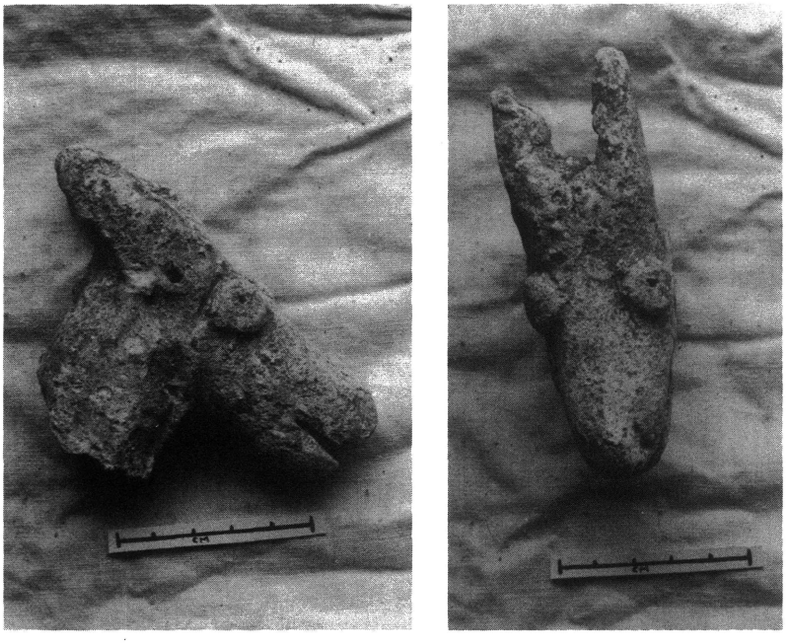


Fig. 113 Carved coral animal head found on the surface of the Tancah Str. 44 Complex, possibly representing a horse.

written Zama, Çama, and Sama) of the Colonial documents. Tzama has been identified in recent times as Tulum, four kilometers to the south of Tancah (Lothrop 1924: 13, 64). Roys (1957: 146–148) equates the two, while also citing evidence that Tancah, rather than Tulum, is the more likely site for the Colonial port of Tzama described in the 1579 *Relaciones de Yucatán*. The apparent contradictions in this source can be resolved by a careful look at the local topography (Figs. 1, 2, 3): although what is clearly Tulum was described as the landfall for the southern seaward approach to Tzama (*Relaciones de Yucatán* 1898–1900, II: 200), the entire reef-enclosed bay extends from below Tulum to a point north of Tancah; the opening in front of Tancah is the only plausible entrance for the deep-draft Spanish ships that traded between Honduras and Tzama after the Conquest; and the Tancah portion of the bay is the only safe anchorage (Farriss and Miller 1977). In addition, Tzama is described as a scattered settlement (*Relaciones de Yucatán* 1898–1900, II: 197), a pattern that corresponds more closely to what our survey revealed at Tancah than to the dense, walled site of Tulum.

There was clearly Post-Conquest occupation at Tancah. Among the evidence are a Majolica Ware sherd (Fig. 103) and what appears to be the head of a horse carved in coral (Fig. 113) recovered from the uppermost level of Tancah Structure 44 during the 1974 excavations, and a ceramic water jug, possibly of the sixteenth century, recovered during an underwater exploration of the *cenote* (Fig. 114).[37] Although these items could be interpreted merely as proof of a Spanish presence in the general area during early contact, evidence exists of sustained Colonial settlement at the site: in addition to a chapel, reported in Chapter II, there are remains of at least one other Colonial structure, a small rectangular "house" of *mampostería* walls and presumably thatched roof, which was possibly a residence for the visiting Catholic priests (*Relaciones de Yucatán* 1898–1900, II: 199); the remains of at least four stone-lined water walls of Spanish design exist among the house mounds in this sector of the site. A modern attribution for these Spanish-type constructions is highly implausible. Aside from the ceramic evidence for an early dating from test pits in and around the chapel, we know that, after Colonial settlement, the area was abandoned to pirates, fugitives and, later, *chicleros*, until the establishment in the present century of a cattle ranch whose owners found these structures already in place (José González Avilés, personal communication, 1974).

Colonial records mention only two Post-Conquest villages on the East Coast between Bacalar, at the base of the peninsula, and Ecab, near Cape Catoche on the northeast tip: Pole, directly across from Cozumel, and Tzama, to the south. Surveys of the area, including our own from Xelha to Ascension Bay, have so far located only two Colonial sites. One of them is at Xcaret, a modern name that seems to correspond to Colonial Pole (Andrews IV and Andrews 1975: 1, 10–12), and the other is at Tancah, which we believe can now be identified as Tzama (Figs. 2, 3).

Perhaps the Tancah–Tulum site has previously eluded identification because it is located one kilometer inland, to the west of Pre-Columbian Tancah. This location is probably not accidental. French and English pirates—often lumped together under the general term *corsarios luteranos*—began to harass the undefended east coast of Yucatan as early as the 1560s (AGI, Mexico 359, 1565; Patronato 56, 1565) and became more of a menace in succeeding years (AGI, Mexico 359, 1579; López de Cogo-

[37] Appendix I describes this vessel as "possibly Chuburna Brown" belonging to the Middle Classic Period.

Fig. 114 Ceramic water jug recovered during underwater test excavations of the Tancah Cenote Cave in 1974, at a depth of 20 meters.

lludo 1688: Libro 6, cap. 9; Edwards n.d.: 149–151). We know that the Colonial settlement at Pole was deliberately situated inland in order to be hidden from the sea (AGI, Mexico 361, 1664), and there is indirect evidence that Tzama, too, especially after it no longer served as a major port, was located well behind the concealing coastal ridge for protection from sea raiders (AGI, Mexico 361, 1659). Only *vigias*, or lookouts, were posted on the shore to warn of the approach of enemy shipping, a practice common on the North Coast as well. It is possible that many of the East Coast Maya settlements had moved inland even earlier, at some time in the 1520s between the early voyages of exploration and the first actual *entrada* by Montejo in 1527, in order to escape the Spanish shipping that began to frequent the area. Certainly Tulum, so conspicuous on its high sea cliff, could well have been abandoned then, and its population could have dispersed or moved a short distance to Tancah, for nothing that could be identified as Tulum appears in the accounts as inhabited after Cortés's 1519 expedition.

The Colonial history of Tzama–Tancah and the central East Coast as a whole is one of continuous decline, almost as severe as in the Uaymil-Chetumal region but without being directly attributable to the ravages of a military campaign. It is likely that the most drastic phase of depopulation preceded the actual Conquest and went largely unrecorded. The area must have been flourishing still in 1519, when Cortés visited it, and declined rapidly thereafter. Otherwise it is hard to understand why Montejo, who had accompanied Cortés and had seen both coasts during the earlier expedition, had bothered to return to the East Coast to launch his conquest of Yucatan in 1527. The early introduction of contagious disease may well have been a major cause for this sharp decline (Edwards n.d.: 129–132, 143), but it should also be noted that the basis of the area's prosperity, long-distance trade, had been severely shaken during this period by the Spanish conquest of the Aztec empire and by subsequent campaigns in Central America (Chapman 1957).

In 1579, when Tzama's population had fallen to fifty tributaries, it was reported that the town at one time had contained "many indians" (*Relaciones de Yucatán* 1898–1900, II: 197). This description scarcely tallies with the first Colonial census of 1549, which lists only eighty-eight male tributaries for Tzama (AGI, Guatemala 128, 1548–49: 386v.)—or 352 people, if we use Cook and Borah's (1971–74, II: 50) conversion factor 1549 of 4.0. But Tzama's population loss between 1543 and 1549 could well have been greater than the slightly more than fifty percent drop estimated for the whole peninsula (Cook and Borah 1971–74, II: 61–65); or the report could refer to some earlier time after initial contact.

It is also likely that the Post-Conquest loss was partially due to commercial isolation and not solely to disease and dislocation. For a period after the Conquest, the East Coast, through Tzama, continued to serve as a link in the trade route, now taken over by the Spanish, between Honduras and the interior of the peninsula. But some time before 1579 the port for eastern Yucatan was shifted to the North Coast sites of Conil and, mainly, Rio Lagartos (*Relaciones de Yucatán* 1898–1900, II: 173, 200; AGI, Mexico 359, 1605). Eventually Campeche became almost the sole port for the entire peninsula, the only one the Spanish could afford to defend against the *corsarios luteranos*. It became increasingly evident that the other coastal settlements, especially those far from centers of Spanish population, could not be effectively protected, and a decision was made to abandon the entire East Coast down to Bacalar (AGI, Mexico 360, 1638).

The settlements on Cozumel, the most frequent targets of raids, were the first to go: in the early 1650s they were resettled in Bolona (López de Cogolludo 1688: Libro 4, cap. 19), which can be traced through Colonial records to the modern town of Xcan on the present boundary between Yucatan and Quintana Roo. In 1668 the remnant populations of Pole and Tzama, which by then had declined to one-half the 1579 figure for Tzama alone—a mere twenty-five tributaries—were moved to Bolona and Chemax, another town farther inland, presumably for the same reason (AGI, Mexico 245, 1668). Mention of Pole and Tzama and the two Cozumel villages in later documents (e.g., AGI, Contaduría 920, 1688) might lead investigators to believe that the sites remained inhabited (Roys, Scholes, and Adams 1940: 9). But, like other resettled communities,

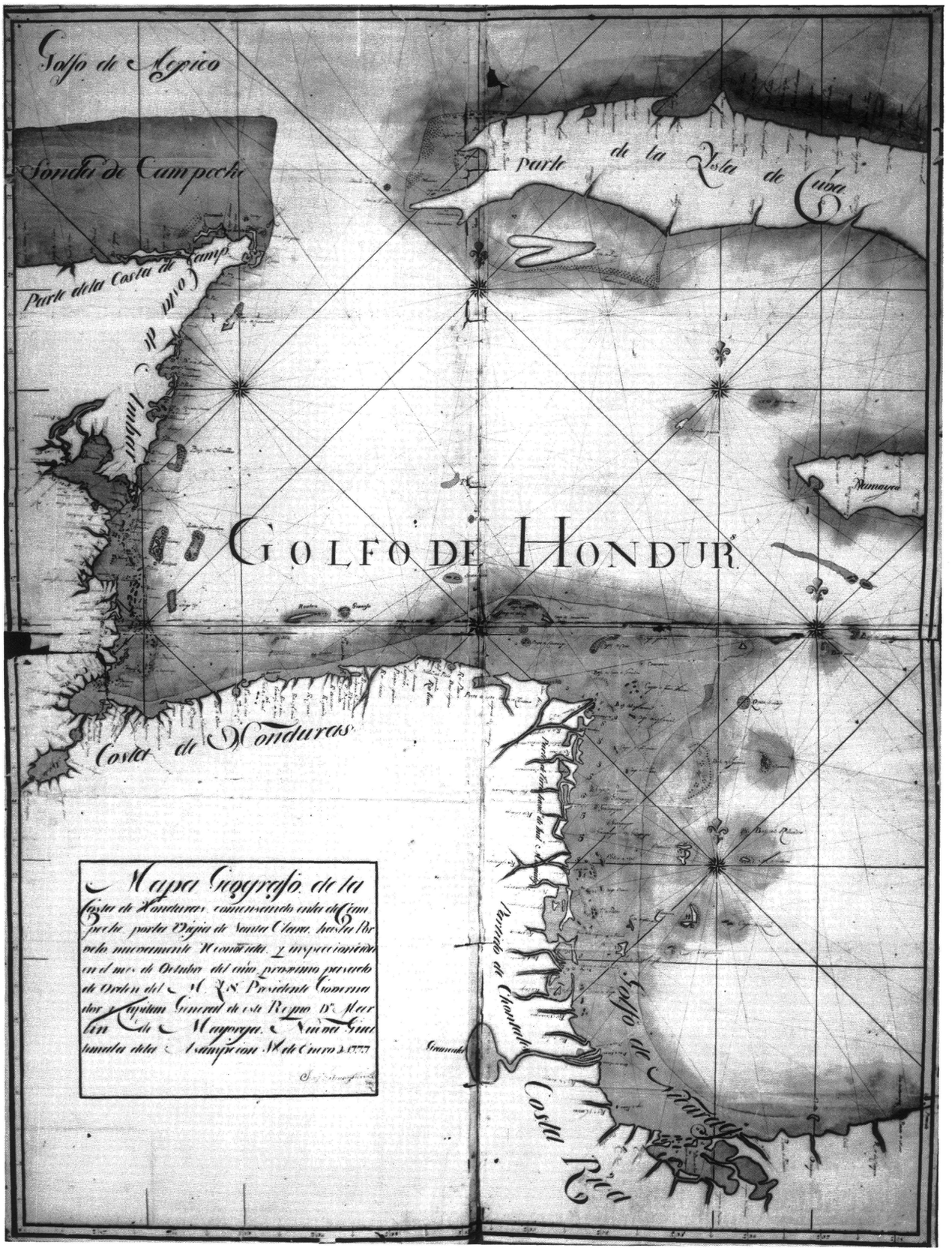


Fig. 115 Map dating from 1777 now in the Archivo de Indias (Guatemala 231) showing the east coast of Yucatan as the *Costa de Ambar*. Tancah is indicated as *Pancá*.

Fig. 116 Details of a map dating from 1776 now in the Archivo de Indias (Guatemala 223) showing the east coast of Yucatan with Tancah spelled *Pancah* (no. 104 in the legend). The Tancah–Tulum region is indicated as "fragmentos de la gentilidad con pinturas al fresco"; this is the earliest known map mentioning the Tancah–Tulum region.

these four merely retained their separate identities as *parcialidades*, or subdivisions, of the towns to which they became annexed.

The starting point for Tzama can not be fixed with the same precision as its terminal date. In many ways Post-Classic Tancah simply merged into Colonial Tancah–Tzama, with possibly a gradual shift westward in the settlement pattern. The construction of the Tancah chapel can most reasonably be dated to some time shortly after the final *entrada* of 1543, when most of the *encomiendas* in Yucatan were allocated. Tzama did not become part of an established parish until 1582, but it had been under the general aegis of the Franciscan territory of eastern Yucatan, and the *encomenderos* were responsible for church construction even in the absence of resident clergy. Post-Conquest occupation was found at Xelha, in the form of mural painting and Post-Conquest censer offerings, and possibly at Playa del Carmen to the north (Andrews IV and Andrews 1975) suggesting scattered populations all along the East Coast in the Early Colonial Period. Furthermore, the size of the Tancah chapel suggests a very early Post-Conquest date, before the population had dwindled.

The period from 1668 to 1841, when John Lloyd Stephens visited Tancah–Tulum, is virtually a historical blank. For all intents and purposes, the East Coast fell out of the orbit of Spanish Colonial control after the decision was made to abandon Pole and Tzama. Nevertheless, eighteenth century Spanish colonists from Merida and Campeche did go to the East Coast to collect turtle meat to dry, turtle eggs, and tortoise shell (*carey*) for combs and the like, as well as ambergris for perfume.[38] In fact, during the eighteenth century, the East Coast was known as the Costa de Ambar (Fig. 115).

By 1719, a government *vigía*, or lookout, was established at Ascension Bay to deter English pirates who would sometimes land on the East Coast and make raids as far inland as Tihosuco in search of slaves; records concerned with the establishment of this *vigía* mention that the Ascension Bay area was still populated by "idolatrous" Indians (AGI, 1017, 1719). In 1741, a Spanish merchant ship, *nao Nuestra Señora de los Milagros* (or *El Matancero*, built in Matanzas, Cuba) wrecked on a reef near Acumal, twenty kilometers north of Tancah–Tulum (Marx 1971: 253–254). Survivors told of having escaped massacres by native inhabitants. This account, along with those relating to remnant occupation of Ascension Bay, suggests the possibility that Tancah–Tulum also may have been occupied by remnant Maya at the time.

As the presence of the English in Belize became more worrisome to the Spanish authorities, official expeditions were sent out in the 1700s to map the east coast of Yucatan and to chart the extent of the English threat. Published here are two of the Spanish maps now in the Archivo de Indias (Figs. 115, 116), dating to 1776 and 1777, a time when British military intervention was becoming apparent elsewhere in the New World. As navigation aids, these maps leave much to be desired; the British had better ones. What is of interest to us here is the fact that Tancah (spelled "Pancah") is mentioned on both of them, and, on the earlier one, there is the earliest recorded reference to murals at Tancah–Tulum: "fragmentos de la gentilidad con pinturas al fresco" (Fig. 116).

[38] Ambergris, a substance produced by whales, was also a luxury export from Yucatan to Spain, and was used as a natural base in the European perfume manufacturing industry. The end product probably returned to Yucatan for use by wealthy Spanish colonists.

THE MODERN ENTRADAS

The spectacle of the current development on the east coast of Quintana Roo brings to mind the question of recurring patterns of outside intrusion or what I call cycles of commerce and conquest in the Tancah–Tulum zone. We know the most about the Colonial Period; this third *entrada* was different from the others in that the result was ultimately abandonment rather than cultural florescence; even the adaptive East Coast Maya could not assimilate the radically new cultural norms introduced by the Spanish. Nevertheless, the factor of open receptivity to foreign influence is common to all three *entradas*. This is predictable behavior: it should not be surprising that coastal peoples, apt to encounter strangers transported to their shores by sea, are by nature more open to outside influence than their landlocked cousins. During the early years of the twentieth century, when Quintana Roo was a refuge area for renegade Maya who steadfastly refused to give allegiance to the Mexican federal government, it was the coastal Maya—the modern Tulumeños—who had an ongoing trading relationship with nearby *ladino* Cozumel. In fact, there is indirect evidence (Pablo Canche Balam, personal communication, 1974) that the Tulumeños were castigated periodically by the conservative inlanders for their open-door policy toward outsiders. The Armour expedition of 1895 (Holmes 1895–97) was not able to land at Tulum because of rumors of renewed hostilities on the part of the mainland Maya. Apparently the principal chief of Chumpom (inland and southwest of Tulum) had then recently executed the Tulum subchief for trading with the Cozumeleños. The Armour expedition's troubles were an exception to the general pattern of open trading on the part of the Tulumeños and probably stemmed from the strong influence of inland isolationism at this time. The Chumpom execution and the resultant isolationist policy possibly explain the reported massacre of a small trading party from Cozumel which had landed at Tulum a short time earlier. Juan Bautista Vega, then a boy of eleven, became the only survivor of the massacre and was taken captive by the Chumpom Maya to serve as their scribe and, later, their *Tatich* (Mason 1927: 210–211; González Avilés 1972:

21–23),[39] repeating the pattern evident several centuries earlier in the capture of Gerónimo de Aguilar and Gonzalo Guerrero of incorporating useful elements of outside influence into their cultural fabric.

The invasion of the Mexican Federal troops sent into Quintana Roo in 1901 to subjugate the rebellious Maya cannot be considered a typical *entrada* in the pattern of the earlier ones mentioned above. It was culturally inconsequential, leaving few traces other than superficial destruction in the area. There is no indication that the Federal troops encountered any resistance around Tulum, or open receptivity for that matter. This may in itself account for the use of the site as a temporary headquarters for the invading army composed of exconvicts from Mexico City who were not overly enthusiastic about confronting the rebellious Maya. The Tulumeños probably dispersed into the bush until the troops retreated. Were it not for the fact that the Mexican invasion of the Tancah–Tulum zone is documented (Reed 1964), we would have no idea from the material remains alone that it had occurred. The outside influence on the cultural heritage of the region visited by the Porfirian invasion can be seen only in the vandalism dating from this period at Tulum in the form of broken stelae, figural relief sculpture with heads knocked off, and mural painting with faces containing the *mal ojo* gouged out from the painted walls.

In the early years of the twentieth century, a Lebanese immigrant family (ultimately descended from the original Phoenicians) from Valladolid, who adopted the name González, began to penetrate Quintana Roo, as had the Pre-Columbian "Phoenicians of the New World." As traveling merchants they traded machetes, cloth, pots, and pans for *chicle* (the raw ingredient of chewing gum). By 1925, the González family had established a *chicle* trading station at the place where the last of the Caribbean pirates, "Molas," had set up a base of operation in the 1830s. This was known as Rancho Tancah, located on the strip of sand in front of the archaeological site of the same name, where Stephens and Catherwood stayed when they made their historic visit to Tulum in 1842. From this spot the González family shipped *chicle* by sea to the port of Progreso on the north coast of Yucatan. Eventually the trading post was expanded during the 1930s into a coconut plantation of some nine kilometers in length along the coast almost to Xelha inlet (Fig. 2). A cattle ranch was established inland in the area of the Colonial site of Tzama, near the Tancah chapel. Coconuts and cattle are not native to the region but were introduced from the outside and now flourish. The González family, particularly José González Avilés (Don Pepe), enjoyed a particularly cordial relationship with the modern Tulumeños, largely because he traded goods they wanted and because he was always honest in his trading transactions. Don Pepe's symbiotic relationship with the Maya reflects a very old pattern of outsiders trading with remote Quintana Roo; I believe his success in commercial dealings with the East Coast Maya has partial roots in the Pre-Columbian history of coastal Quintana Roo, when a similar pattern had been established.

The East Coast population is growing rapidly in response to employment opportunities offered by the new tourist resorts there and is alternately bloated and deflated by jumbo-jet planeloads of North Americans and Europeans, as well as middle-class Mexicans, all of whom come to the East Coast beaches firmly committed to a cult of leisure. The Tancah–Tulum region is booming with newfound wealth, and its current activity and prosperity is a direct result of outside influence: the tourism industry, government and private. A once isolated strip of sand off the upper coast of Quintana Roo has been "developed" into the largest landfill operation in the history of this planet, resulting in the world's newest Miami Beach-style resort. The coconut plantation and *chicle* station at Tancah, one of the most beautiful places on the East Coast, is being transformed into prime beachfront real estate.

In a real sense, the circumstances surrounding the current tourist *entrada* reflect an old pattern of being either a backwater or an object of intense foreign exploitation, a margin in the sense of being on the edge of a culture area and an artificial, temporary *entrepôt*. The current forms of foreign contact are of a totally different nature from the earlier ones, but what remains consistent is the process of sudden growth from the outside in a matrix of regional conservatism.

[39] See also the account related by Juan Bautista Vega at Chumpom to Pablo Bush Romero (1964: 171–173).

CHAPTER V

Cycles of Cult: An Iconology of the Tulum Mural Tradition

> . . . if structure can be seen it will not be at the . . . empirical level, but at a deeper one, previously neglected, that of those unconscious categories that we may hope to reach, by bringing together domains which, at first sight, appear disconnected to the observer. . . .
>
> (Claude Lévi-Strauss 1960: 53, "On Manipulated Sociological Models")

WHAT ARE THE CULTURAL IMPLICATIONS of murals in the Tancah–Tulum region? If they are primarily religious, how did the Maya see their religion as being directly interrelated with the various parts of their life discussed in Chapter IV?

These questions are at the heart of an inquiry into the meaning of mural painting in the Tancah–Tulum region. In addressing these issues I am less concerned with what the Tancah–Tulum Maya *believed* than in what the murals *mean*. We can never directly test ancient Maya belief; the believers are long dead. But we can test meaning in what the believers made. Such is the focus in this chapter's analysis of meaning—its iconography and its iconology.

The terms iconography and iconology have been used primarily to discuss levels of meaning in the art of the Old World. They are inextricably linked to written texts as explanation, and are discussed most cogently by Erwin Panofsky (1955) in his *tour-de-force* interpretations of Medieval and Renaissance art forms. I have here modified the Old World definition of these terms according to the special problems inherent in studying different cultural traditions. Like studies of Pre-Columbian art in general, studies of Maya iconography and iconology are aided by few decipherable texts coeval with the art. For interpretation, one must consequently look to formal visual structure, to contextual associations, such as architecture, and to oral traditions that may survive with the contemporary Maya and that may elucidate the intrinsic meaning of an artistic expression. Meaning in the Maya visual arts can also be found in ethnohistorical documents such as the *Popol Vuh*, or Book of Counsel, the creation myth and saga of the Maya of Highland Guatemala, and the *Books of Chilam Balam*, the sacred chronicles of the Maya of Yucatan containing a mixture of Maya history, prophecy, myth, and ritual lore.

Like Panofsky (1955), I see the difference between iconography and iconology as one involving levels of meaning. The two terms are complementary. Iconography is the simpler of the two and is concerned with what Panofsky called "conventional subject matter."[1] Iconology analyzes what Panofsky (1955: 30, 41) called "intrinsic meaning or content"; it deals with the meaning of visual symbols and with structural values of art forms that may not be apparent to the artists involved but that, nevertheless, can make sense to the iconologist who takes into consideration the primary archaeological contexts and cultural implications of the art form concerned.[2]

My use of the term "archetype" conforms less to Mircea Eliade's (1974) meaning of "exemplary model" or "paradigm" than to Jung's definition of archetypes as structures of the collective unconscious. Symbolic anthropology, as espoused by Turner (1974), Leach (1976, 1977), and others, obviously bears on my thesis also, while I acknowledge the caveats of I. C. Jarvie (1976) regarding the limitations of a symbolic interpretation of human behavior. In answer to Jarvie's well-taken criticism of symbolic anthropology—that we cannot assume that people do not mean what they say they mean (Jarvie 1976; Miller 1976)—I would suggest that his comments do not apply to visual forms; because of their direct access to the collective unconscious, visual things bypass the semantic pitfalls that worry Jarvie.

The discussion of iconology that follows is an interpretive synthesis of major visual themes rather than a series of iconographic analyses of individual murals. The time and place are post-1400 Tulum, representing the Late Post-

[1] Panofsky's approach to understanding meaning in the visual arts is admirably suited to Renaissance Europe. Given the richness and relatively detailed knowledge of Renaissance European culture, Panofsky was able to formulate a three-level system for the interpretation of its art: 1) a pre-iconographic level involving identification of images as people, animals, houses, and so forth; 2) an iconographic level dealing with stories and allegories common to Renaissance man, which could elucidate the "conventional subject matter" of Renaissance art; 3) an iconologic level concerned with "intrinsic meaning" of "symbolical values" inherent in visual forms (Panofsky 1955).

[2] Panofsky's third level actually involves two different things: 1) *Weltanschauung* and 2) "essential tendencies of the human mind." The first is culture specific, fitting our thematic study of the Tancah–Tulum Maya, whereas the second is reductive, being, in fact, closer to Lévi-Strauss's structuralist interest in cross-cultural studies of myth.

Classic Period on the east coast of Yucatan (*ca.* A.D. 1400–1518). I have chosen these murals to study from the point of view of cultural themes—Maya iconology—because, as the richest and most complex of the region, they are amenable to visual analysis. Another reason for choosing the Tulum murals for study is that their chronological position is firmly established to my satisfaction and is accompanied by major changes in ceramics and architecture. These changes usher in a new era with new attitudes and cultural patterns reflected in various aspects of material culture. As often happens, new ideas and cultural forms are more apparent than older ones and therefore easier to study, since they contrast with what came before and self-consciously impress their new being on their old cultural matrix. The synthesis below concentrates on the murals from this innovative period as visual spokesmen, as it were, for the new culture and attitudes that are perceivable as being representative of Maya ideas and values on the eve of the Spanish conquest.

THE THEME OF REBIRTH

To a people obsessed with directional significance, Tulum's geographical position on the extreme eastern limit of the Maya realm sets the keynote for the cosmological function of the site, whose ancient name was appropriately *Zama* or "City of the Dawn."[3]

The east, for the Maya, was a place of rebirth, where astronomical bodies such as the sun, which they had seen descend and disappear in the west, reappeared after a period out of view (literally under the world) or after passage through the world of the dead, the Underworld. The understanding that the west was associated with death in the Maya mind, and the east with rebirth, comes from written sources of Maya cosmogony such as the *Popol Vuh*, from recent research on Maya funeral pottery (Coe 1973), and from the texts and iconography at Palenque. It also comes from a simple structural analysis of their cosmology, aspects of which are common in several parts of the world at different times. For example, ancient Egyptian followers of Akhnaton conceived of the death of their Pharaoh as the sun's passage into the Underworld at night, visually expressed by the image of the Pharaoh Tutankhamen being carried through the underworld on the back of a black leopard (Gilbert *et al.* 1976: Pl. 21, No. 38). The Maya believed that the sun was transformed into a jaguar at night. Even our own culture has reference to the "dying sun" and "newborn sun," as for example, with Joseph Conrad's ominous metaphor for imminent death:

> Faint puff of wind, a mere sign from the west, where Venus casts her rays on the dark edge of the horizon, like a bright lamp hung over the grave of the sun. . . . (*Victory*)

[3]See Lothrop (1924: 65) for a discussion of the ethnohistorical and etymological grounds for calling Tulum "Zama." Although in Chapter IV I argued that "Zama" in the Early Colonial documents referred to the site now called Tancah, it is probable that from *ca.* A.D. 1400–1518, Tulum's aboriginal name was "Zama."

The Tancah–Tulum region, facing the eastern sea we now call the Caribbean, was for the Post-Classic people of Mesoamerica an area full of associations of birth and rebirth, for it was from the eastern horizon that astronomical bodies emerged from the realm of death.

It is known from ethnohistorical accounts that Ix Chel, the goddess of the moon, childbirth, procreation, weaving, and medicine, was an important deity for the East Coast Maya. All of these associations for Ix Chel have to do with renewal. A major shrine to Ix Chel, where pregnant women consulted a famous idol of this goddess, is well documented on Cozumel. So abundant were the female deity representations found by the Spanish on the island north of Cozumel that they named the island Isla de las Mujeres, or Island of Women. Given the birth associations of this deity, it is not surprising that representations of Ix Chel are found in the murals of Tulum also.

Recently Aveni and Hartung (personal communication, 1977) suggested that the "observatory" at Paamul, a site a few kilometers north of Tulum, is astronomically aligned to the moon, this being noteworthy because "lunar alignments are rather uncommon in Mesoamerica." Because Ix Chel is goddess of the moon, this astronomical association is most important on the East Coast, where the moon rises, appearing to be reborn out of the eastern sea. When a child is born, it emerges from the interior world of its mother. It is thus an inescapable conclusion that the association of a newborn child with the moon, seemingly reborn out of the belly of the earth in the eastern sky, was part of the metaphorical Maya belief in the association of the new moon with birth.

There is also an architectural expression of rebirth at Tulum. The easternmost structure, Structure 45, is a round-based one, and round structures are associated with the god Quetzalcoatl-Kukulkan, one of whose most important manifestations is Venus as the Morning Star (Fig. 117). According to the pan-Mesoamerican myth, Quetzalcoatl-Kukulkan was reborn in the east in the form of the Morning Star after his death and descent into the west and his passage through the Underworld. The sudden appearance of Venus on the horizon of the eastern sea was therefore an event of extraordinary importance for the ancient Maya. Compared with the relatively short sun and moon cycles, Venus's eight day sojourn out of view during inferior conjunction (while passing through the Underworld) is particularly awe-inspiring,[4] for the reappearance of the planet must have been somewhat like a resurrection.

We know that the first five days of the heliacal rising of

[4]The synodical revolution of Venus is 584 days, consisting of four unequal segments of 236, 90, 250, and 8 days in duration. For our purposes, it is significant that the Venus tables in the Dresden Codex (46–50) clearly indicate that the Maya were aware that, after 250 days as the Evening Star in the western sky at sunset, Venus is lost to view for a total of eight days: four days as it passes through inferior conjunction and four more days before it can be distinguished as the Morning Star in the eastern sky at dawn, i.e., its first heliacal rising, beginning its 236-day period as the Morning Star (see Thompson 1971: 221–229 for a discussion of Maya knowledge of the synodical revolution of Venus).

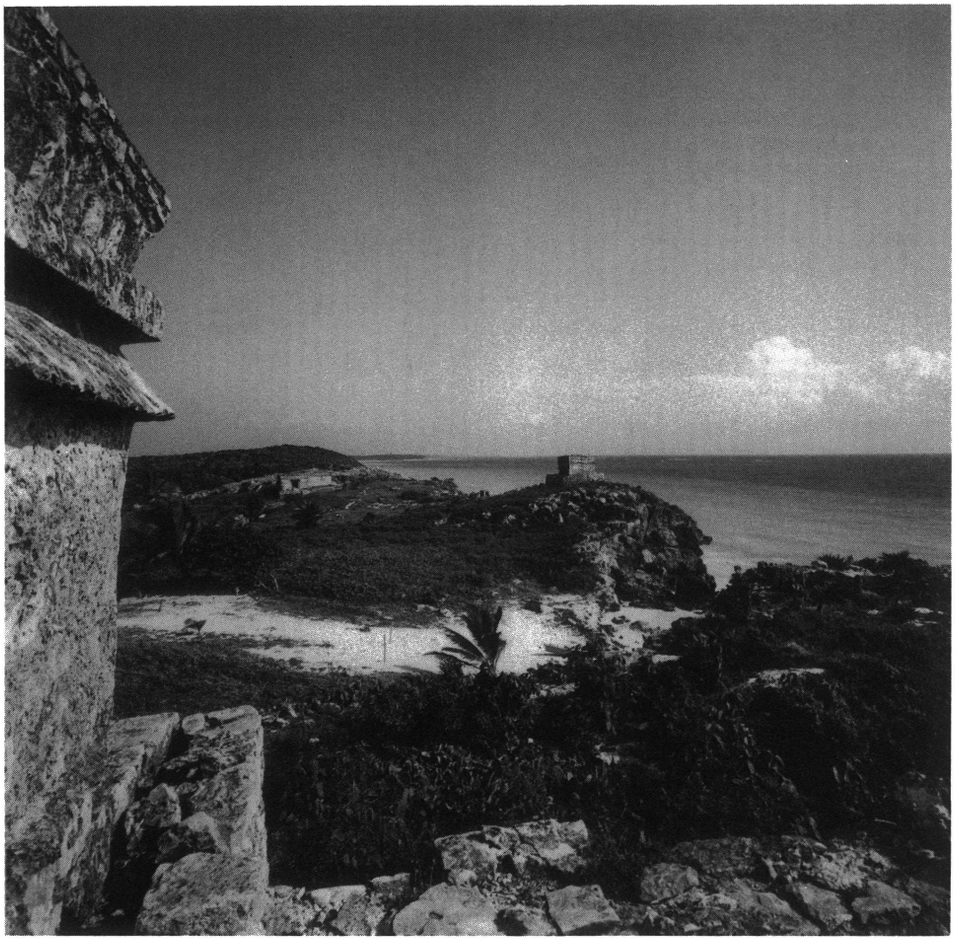


Fig. 117 Tulum Str. 45 as seen from Str. 5. This is the easternmost structure at Tulum and in most of Mesoamerica. Its round base and its location suggest that it was dedicated to the cult of Venus as the Morning Star. Photo taken in 1973.

Venus in the early morning eastern sky were fraught with deathly omens for the Maya and all Mesoamerican peoples. During this unlucky five-day period no new projects were begun, no voyages embarked on, and no public events planned. It is known that the Aztecs of Central Mexico had such a fear of these first five days that they closed very tightly all doors and chimney holes in their houses, so that the light of Venus as the Morning Star could not enter (Sahagún 1938, Bk. 7, Ch. 3; Thompson 1971: 217). Perhaps the orientation of most buildings at Tulum—facing away from the east—reflects this belief. In view of the fact that ethnohistorical sources state that houses in Maya towns "rarely faced the west" (Roys 1943: 20), a religious reason for the westerly orientation of most of Tulum's buildings is likely.

For the Maya, as well as for the other Mesoamerican peoples, the passage of Venus in the Underworld rendered that planet extremely dangerous, full of Underworld influences. The Maya called Venus *Xux Ek* ("Wasp Star") and believed that it was capable of inflicting harm on the living after its sojourn with the dead. The wasp was chosen to represent Venus as the Morning Star because it, like Venus, can harm man. Perhaps the clearest example of Xux Ek is found on pages 46–50 of the Dresden Codex. There, the evil effects of the first five days of Venus as the Morning Star (Xux Ek) are depicted figuratively and glyphically (Thompson 1972: 62–71). Xux Ek, represented by the stylized top view of a wasp showing the insect's abdomen and two wings, is found in the skyband of the Santa Rita murals, presumably on the eastern wall (Fig. 110). A similar representation of Xux Ek is depicted on the skyband of the Tulum Structure 5 mural (Pl. 28), which is located on the east interior wall. This placement simulates the actual appearance of Xux Ek low on the eastern horizon for the five unlucky days in the 584 days of the Venus cycle.

The mural painted on the east interior wall of Tulum Structure 5 (Pl. 28) embodies several meanings, one of which may involve a Maya vision of the dawn, the moment between symbolic death and life. The skyband at the top holds signs for the sun and Venus; for the Maya, they are periodically reborn out of the darkness of the Underworld. Dawn may be figuratively represented by the standing figures in the middle supplicating the seated goddesses, two aspects of Ix Chel, who hold the power to transform dark-

ness into light and to cause birth and rebirth. Flanking these confronting figures are two representations of fantastic birdlike creatures with feline claws, wearing jade necklaces and wristlets, and smoking cigars. These cigar-smoking figures refer to passage through the Underworld by recalling an incident in the *Popol Vuh*.[5]

Beneath the horizontal jaguar-pelt band, upon which the figures of the middle register are positioned, is the lowest register, where fishlike, turtlelike, and snakelike creatures are shown. The creature in the center, enframed by the twisted body of a serpent, is depicted as if floating in water; it consists of a figure emerging from a turtlelike body. Like the two cigar-smoking creatures of the middle register, the emerging figure has feline paws for hands and feet, and wears a jade necklace and wristlets.

The floating marine imagery in the lower register suggests that an underwater scene is depicted, and the shape of this lower register also suggests this. The benches to the north and south in the interior of the room have constricted the area of paintable space on the east wall so that the effect is of the bottom of a river bed, lake, *cenote*, or sea, seen in profile view. This visual effect seems not to have been accidental, but rather seems to have been contrived to reinforce the watery Underworld associations, which the lowest register is meant to represent. Indeed, sources of water suggest the Underworld quite literally by being below the level of the earth and containing an unknown world, usually dark.

If the walls of Structure 5 were laid flat on the ground, the mural on the east wall would assume directional significance. The upper register of the skyband featuring Xux Ek would be at the extreme east, and the lowest register of the watery Underworld at the extreme west. The figures occupying the middle register, positioned above the jaguar pelt, would represent the betwixt-and-between state that is the dawn.

Another aspect of the iconology of rebirth can be found at Tancah, just four kilometers north of Tulum, where there is a *cenote* cave containing glyphlike carvings. Although Robina (1956: 120) argues the glyphlike carvings date from the Colonial Period, the ceramic material collected from the surface of this cave suggests that it had a period of ritual use contemporary with the occupation of the site of Tulum.

The sacred *cenote* of Tancah is located inside the mouth of this shallow cave, which has a distinct east–west orientation (Fig. 118). The entrance to the *cenote*, which contains brackish water over a hundred feet deep, is a narrow passage like the neck of a bottle that faces upward to the sky on the east. Carved on the east ledge of the cave, sloping away from the entrance of the *cenote* and facing the dark water below, are glyphlike forms (Fig. 119), beneath which are steplike motifs similar to carvings known in the basin of Mexico (Fig. 120). Conspicuous among the Mexicanized, glyphlike forms that make up the carvings of the Tancah Cenote Cave is the *Lamat* glyph, a hieroglyph for the planet Venus as well as for a Maya day (Fig. 119). Also shown is 1 Ahau, the cyclically repeating date on which the heliacal rising of Venus occurs. The calendrical signs *Lamat* and 1 *Ahau* together must be read as Venus as the Morning Star, during the first five days of its heliacal rising when it emerges from the land of the dead, the latter being expressed by the water in the darkness of the *cenote*.

The fear of Venus as the new Morning Star is nowhere more dramatically expressed than in the Tancah Cenote Cave, and it is no accident that the Tancah Maya chose this particular cave in which to carve their sacred imagery. There are several *cenote* caves in the vicinity of Tancah, but this one is unique in its east–west orientation. It was chosen as a sacred spot to be carved and worshiped because of its special combination of direction, water, underground location, and darkness—all features that reinforce the death and Underworld associations of the place. All that had to be added were the appropriate glyphs of *Lamat* and 1 *Ahau* to render the cave a place expressive of Venus rising as the ominous new Morning Star. The malevolent character of the glyphs fits perfectly with the rising east wall of the cave, which emerges from an Underworld of water.

Even today the Tancah Cenote Cave is feared by the Cruzob Maya living in the vicinity. Local legend has it that the cave is haunted by an *alux milagroso* ("miraculous sprite"), and when these highly traditional Maya hunt in the vicinity of Tancah, they make special offerings of extra candles to placate the *alux milagroso*. This fear of the Tancah Cenote Cave suggests that the ancient Maya associated Hell with a cold damp place and that caves with water were thought to be passages into that realm of death. Despite the overlay of five centuries of Christianity depicting Hell as a place of fire and brimstone, the Maya still associate Hell and the Underworld with cold dark caves and retain an active fear of such places (Willard 1926: 251–252).

Many of the *cenotes* in Quintana Roo are connected to the Caribbean Sea by means of underground rivers,[6] and indeed it is apparent everywhere on the East Coast that

[5] According to the *Popol Vuh*, the mythical hero twins Hun Ah Pu and X Balan Ke were summoned into the Underworld by its Lords to undergo trials that, if overcome, would render them immortal. One of these trials required the brothers to smoke cigars, which the Lords stipulated had to be kept lit; when the cigars burned down, the brothers would be put to death. Not being subject to time, the Lords could defy its effects, here symbolized by the burning cigars. If the twins were to pass through the supernatural world of death and not suffer the fate of all mortals, they too would have to negate time. The hero twins tricked the Lords by attaching fireflies to the cigars, making them appear to be lit, yet not burning down, something only immortal beings could accomplish. Eventually, after tricking the Lords further, the twins successfully passed through the Underworld and, in effect, became immortal by emerging in the east as the sun and the moon or Venus. Thompson (1971: 218) suggests that the cycle of stories referred to in the *Popul Vuh* is that "in which the sun and Venus are brothers."

[6] See Chapter I for a description of the hydrogeology of the Quintana Roo Coast.

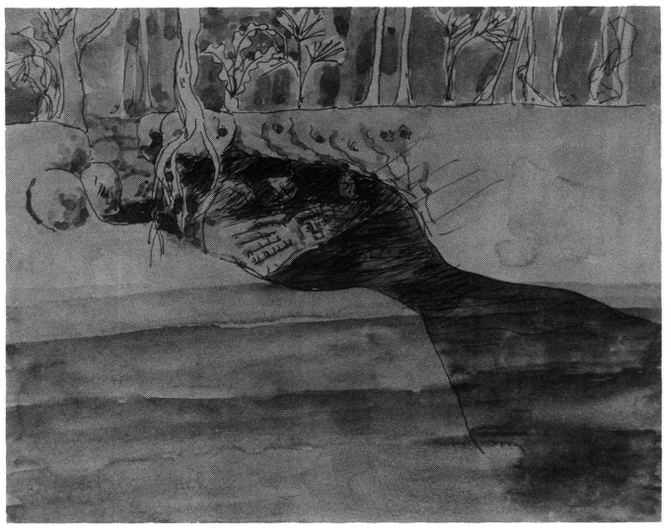


Fig. 118 Section drawing of the Tancah Cenote Cave. An underground water source emerges eastward from the west below. Drawing by K. Grootenboer.

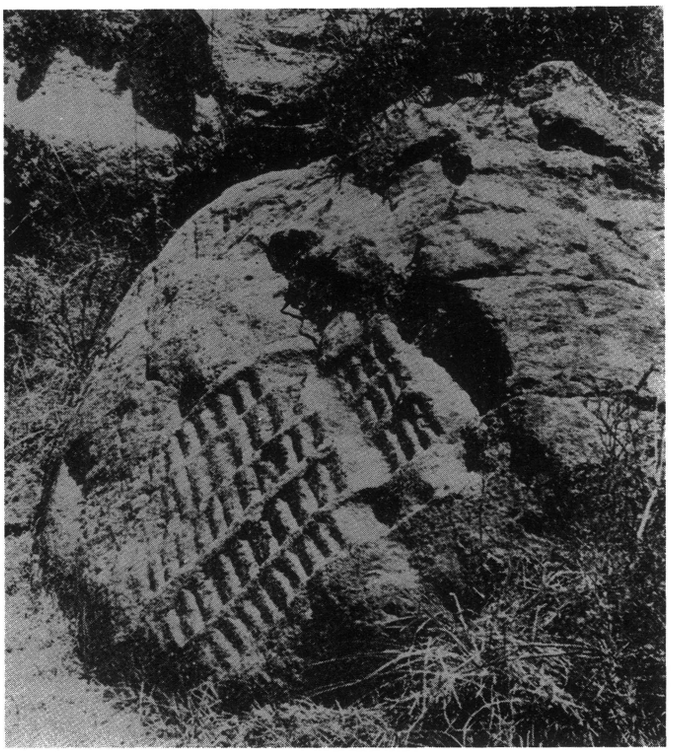


Fig. 120 Steplike motifs carved on rocks near Texcoco, Valley of Mexico. These are reminiscent of similar representations in the Tancah Cenote Cave (after Cook de Leonard 1955: Fig. 8).

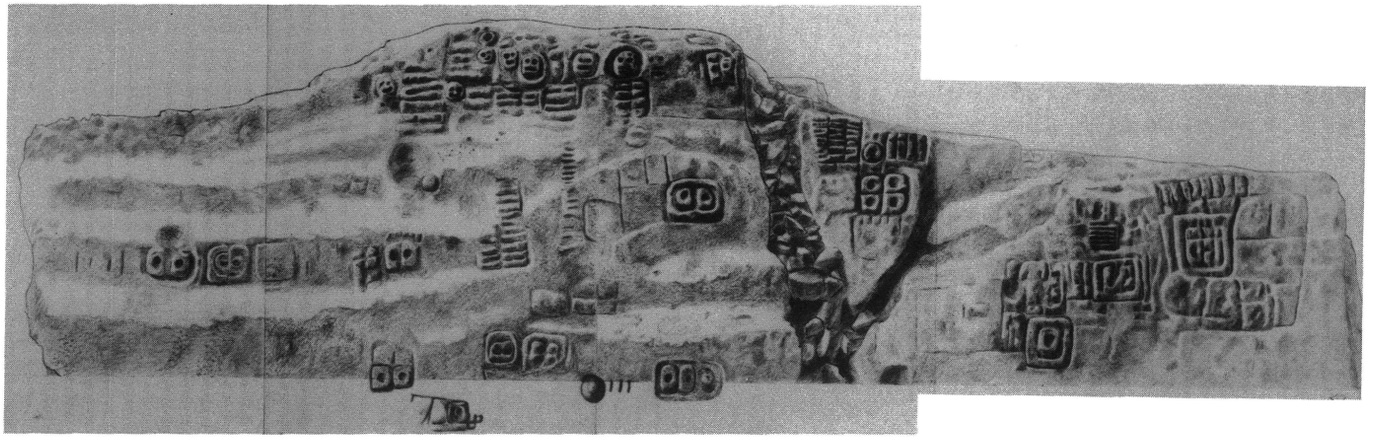


Fig. 119 Drawing of the east face of the Tancah Cenote Cave showing crude variants of *Lamat* and *Ahau* glyphs above steplike motifs, possibly indicating the ascent of the sun. Drawing by K. Grooenboer.

cold fresh water bubbles up on the edge of the shore into the warm saltwater of the sea. As has already been mentioned, one such place near Tancah is Punta Tulsayab, which bears an ancient Maya name meaning "where the [fresh] waters go out." To the metaphorical Maya mind, the natural phenomenon of underground rivers emerging from the sea was another symbol for the gods' passage through the Underworld from the west, where they descend and die, to the east, where they emerge reborn.

VENUS AND THE SUN

. . . at the same time that they saw the rising of the sun, they contemplated the Morning Star, the Great Star, which comes ahead of the sun, that lights up the arch of the sky and the surface of the earth, and illuminates the steps of the men who had been created and made. (*Popol Vuh*; Recinos, Goetz, and Morely 1957: 173)

Another cosmological theme represented in the iconography of rebirth at Tulum concerns the relationship between Venus as the Morning Star and the sun. The upper-register skyband of the interior murals of Tulum Structure 5 and the skyband of the columns of Tulum Structure 1 both show the sign for Xux Ek or Venus as the Morning Star alternating with the sign for the sun, called a sun-ray motif (Pls. 23, 28). The door jambs of the inner room of Tulum Structure 16 are also decorated with variant Venus and sun motifs (Pl. 39).[7]

There is a direct astronomical relationship between the sun at dawn and Venus as the Morning Star, which is very apparent to the viewer on the East Coast and which, I feel sure, was noticed and adapted as a cosmological symbol by the Maya of Tulum. Venus as the Morning Star appears low in the eastern horizon just prior to the rising of the sun when the eastern sky is darkest. As Venus looms up from the eastern horizon, it appears relatively large and is at its brightest in those minutes just before the dawn. In fact, its light is exaggerated by an optical illusion created by the magnifying effect of the atmosphere at the horizon which also causes the sun and moon to appear quite large upon rising and setting. As Venus ascends, the magnifying effect is decreased, and the planet appears small and its light less intense in the background of the lightening sky. As the sun rises, Venus appears to shrink still more, and its light dims against the dawning sky until it completely disappears from view.

There is linguistic and ethnographic evidence to suggest that the Maya may have seen a physical link between Venus and the sun. In at least one Maya language (Quiche), Venus (*Icoquih*) is translated as one "who carries the sun on her back" (Recinos, Goetz, and Morley 1957: 180). One of the Venus manifestations is Quetzalcoatl-Kukulkan, who as the feathered serpent could provide an identification in this context for the feathered serpent bodies shown in the murals of Tulum Structures 5 and 16. Evon Vogt (1969: 600) relates an account, recorded by William Holland, of the relationship between Venus and the sun:

> At dawn the sun rises in the east preceded by Venus, the Morning Star, a large plumed serpent called *Mukta ch'on* by the Tzotzil. Venus is the precursor and herald of the sun, and the Tzotzil still identify it with the serpent deity, as it was among Middle-American Indians.

It is possible that the Maya believed that, in its guise of a feathered serpent, Venus as the Morning Star could use its rope-like form literally to pull up the sun each morning, and that, in the process, Venus sacrificed itself by falling back into the Underworld exhausted by the effort. Rising again cyclically, the feathered serpent as Venus had conquered death and was, therefore, immortal, a god. Las Casas, in his *Apologética historia de las Indias*, is clearly referring to Venus when he states:

> After the sun . . . they honored and worshiped a certain star [which they associated with] their god Quetzalcoatl [who] had been transformed into that star when he died. (Las Casas 1967, II: 201 [author's translation])

The *Popol Vuh* links Venus's close relationship with the sun in the east to the God Quetzalcoatl-Kukulkan:

> They took turns at watching the Great Star called *Icoquih*, which rises first before the sun, when the sun rises, the brilliant *Icoquih*, which was always before them in the East, when they were there in the place called Tulán-Zuiva, whence came their god.[8] (Recinos, Goetz, and Morley 1957: 180)

Venus as the Morning Star was associated with the god Quetzalcoatl-Kukulkan who took on a Messiah-like aspect in his prophecy that he would come again from the east to save the world. In a sense, following my suggestion above, he does this every morning during a segment of the Venus cycle by transforming himself into a feathered serpent (Venus as the Morning Star) so that he can haul up the sun from the Underworld.

It is also possible that the fall of Venus back into the Underworld was visually expressed at Tulum by an image reminiscent of Icarus in Classical Greek mythology but very different in meaning. The descending deities with ropes trailing from them depicted in stucco relief at Tulum (Pl. 41) and on page 35 of the Codex Madrid (Fig. 121) may represent Venus as the Morning Star falling back into the Underworld after having brought the sun to light out of the darkness of Hell. If this interpretation is valid, Venus would have had to transform itself from a feathered serpent back into a deity of human form. The ability to change form is not an uncommon attribute of Maya deities.

There can be little doubt that Quetzalcoatl-Kukulkan was worshiped at Tulum, for not only are there innumerable references to Kukulkan's astronomical manifestations as Venus as the Morning Star in the mural painting, but there is also an individual architectural expression of the Quetzalcoatl-Kukulkan cult in the form of the easternmost structure at Tulum, the round-based Structure 45 (Fig. 117). It is possible that the Quetzalcoatl-Venus cult was introduced into the Tancah–Tulum region during the Early Post-Classic Period along with the associated Xux Ek iconography. The Structure 12 mural at Tancah shows a figure associated with a feathered serpent that probably represents Quetzalcoatl-Kukulkan (Pl. 6); the falling or descending feline of Xelha Structure A (Pl. 45) may also refer to this cult. Evidence for the worship of the Quetzalcoatl-Venus cult appears reinforced in the iconography of the Late Post-Classic Period, and it would seem that this cult is directly associated with the intrusive cultural elements, the

[7] Skybands in the closely related murals from Santa Rita show the Xux Ek sign alternating with the sun-ray sign (Gann 1900: Pls. XXIX, XXXI), further indicating a relationship between Venus as the Morning Star and the sun.

[8] This reference raises the possibility that Tulum may have been founded as a latter-day Tulán-Zuiva, the sacred place from which Quetzalcoatl-Kukulkan was to come again.

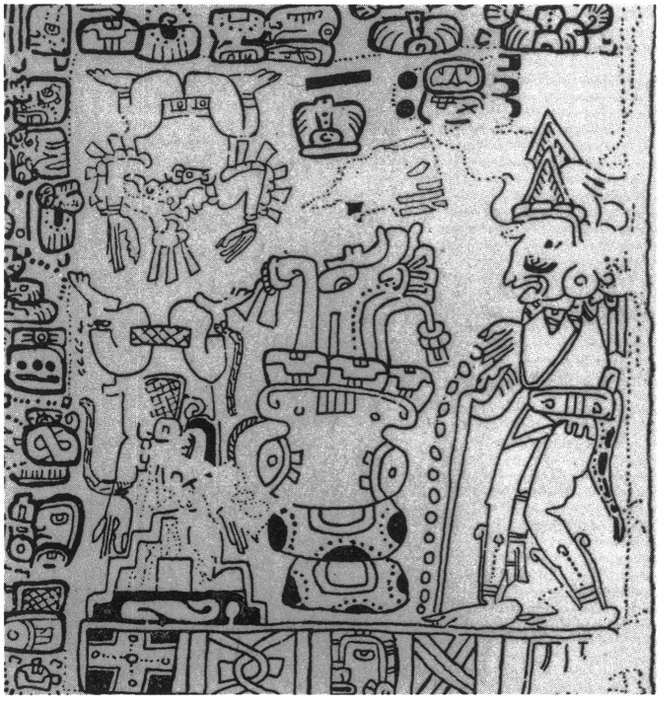


Fig. 121 Descending deities, Codex Madrid 35. One is shown with ropes trailing from his arms and legs (detail after Villacorta and Villacorta 1930: 294).

cycles of conquest, found in the Tancah–Tulum zone at A.D. 770 and again at A.D. 1400.

The period of the Third Entrada of the Spanish at A.D. 1518 may also embody transformed elements of the Quetzalcoatl-Venus cult. Some outward manifestations of the cyclical aspects of Christianity were accepted into the Tancah–Tulum zone with little or no coercive force as is shown by evidence from the sixteenth century Spanish chapel at Tancah discussed in Chapter II and by data for the relatively non-coercive presence of the Spaniards in the region (see Chapter IV). One reason for such a ready acceptance of Christianity may be that the Maya interpreted Christ as some permutation of Quetzalcoatl. That Christ and Quetzalcoatl were amalgamated concepts in Yucatan during the sixteenth century is suggested in the various books of the *Chilam Balam*. There is evidence of this union in other parts of Mesoamerica as well.[9] When one considers the messianic implications in both Quetzalcoatl and Christ, as well as the fact that Christ as "Risen Lord" is referred to in Christian imagery as "Morning Star," the proposition that the Maya saw the Spanish Christians of the Third Entrada as bearers of essentially the same cult as the earlier two *entradas* becomes an enticing one indeed. The view of Christ as a latter-day Quetzalcoatl fits in well with the theme of Mircea Eliade's *Myth of the Eternal Return* (1974). As such, in the Maya mind (surely falling into the category of what Eliade calls "archaic belief") the cyclical return of a god was quite real, because as an ontological conception it imitates or repeats an "archetype."

THE IDENTITY OF THE DRAMATIS PERSONAE: LIMINAL LORDS

One of the principal questions that comes to mind in discussing the content of the murals of Tulum Structures 5 and 16 is that of the identity of the figures shown; a major problem of semantics arises when assessing their identity. It is clear from iconographic evidence that the figures are supernatural beings enacting some mythological drama behind which there is undoubtedly a lost "script." But equally clear to me is the inadequacy of the label "deity" or "deity-impersonator" for these beings. To label these figures or any other personages in Mesoamerican mythology thusly is to imply a relatively static identity as in the Greek or Roman pantheon, which fails to convey the complex character of these beings as seen by the Maya. Rather, they are fluid, ever-changing entities that take on various aspects as well as new identities. This mutability often leads to confusion as to who or what they represent, if one uses such rigid schemes as the Schellas nomenclature employing letters of the alphabet to label deities. Arild Hvidtfeldt's seminal *Teotl and Ixiptlatli* (1958) and Bodo Spranz's *Göttergestalten in den mexikanischen Bilderhandschriften* (1964) come closest, in my view, to describing the character of Mesoamerican supernatural beings by emphasizing their fluid, chameleon-like quality of changing attributes and identities according to context. The identity of Itzam-Na, the so-called supreme deity of the Maya, is a case in point: he is both lord of the sky and lord of the Underworld, a Mercury and Pluto rolled into one. I feel the precise character of these kaleidoscopic supernatural beings—the figures shown in the Tancah–Tulum murals included—is at this point the most troublesome aspect of Pre-Columbian studies.

To say that Quetzalcoatl-Kukulkan is the god of Venus or of the wind is to mistake the point that this supernatural culture hero is able simultaneously to incorporate both these attributes and others as well. For example, in the Dresden Codex on page 58, Quetzalcoatl-Kukulkan is shown with a human body, insect body, and a full-faced Lamat glyph representing Venus[10] as the Morning Star all at the same time (Fig. 122). Maya deities, by their very nature, tend to defy verbal explication. Because they (and Mesoamerican deities in general) can take so many different forms, they are by definition liminal or transitory beings, and also, on occasion, occupy liminal states of being.

The concept of liminality as used here is adapted from Arnold van Gennep's (1975) classic study of "transition rites" involving diachronic changes in social position. Van

[9] For another discussion of the process of religious syncretism involving Quetzalcoatl see J. Lafaye (1974).

[10] Thompson (1971: 220) regards the *Lamat* sign as being derived from or a variant of the Venus sign.

Fig. 122 Figure falling from a celestial band, Codex Dresden 58; a human body is combined with an insect abdomen and a head of the main sign of the Venus glyph (detail after Villacorta and Villacorta 1930: 126).

Gennep's formulation involved three stages: separation, margin or *limen* (threshold, both actual and symbolic), and reaggregation. It is the middle stage, limen, that I use here, although I prefer Turner's (1974: 232) characterization of this middle period of the rites as "cunicular," being in a tunnel. In borrowing the term liminality, I apply it to the symbolic implications of the murals of Tulum Structures 5 and 16, specifically as it pertains to the identity and activity of those masked figures shown, grotesque and splendid in their embodiment of the chthonic powers invoked by the Maya mind. These are liminal lords, monstrous creatures, who must be appeased in order for the cosmic cycles to pass from the oblivion of death to the renewal of life.

The identity of the elaborately costumed figures shown facing each other in the murals of Tulum Structures 5 and 16 as lords is suggested by the *Ah Po* reading of the mat sign (Lounsbury 1973: 130) shown below or near them (Pls. 28, 37, 40). The most important figure of each confrontation scene is the one in contact with the ground, either sitting or kneeling directly on the ground or seated on a stool, stone, or, in one case, an animal. It is these seated or kneeling figures who are in charge of or direct the confrontation scenes. Similar attitudes of authority are depicted in Maya and Mixtec codices, and it is traditional in Maya households today that the most important guests or members of a household are given the few available chairs or stools. In the murals, contact with the earth is emphasized by the *tun* glyphs of stonelike objects or by the *tun* glyph variants in the form of stools upon which the prominent directing figures sit. While being seated in the presence of standing subordinates can be seen as a universal sign of rank, Mesoamerican custom may have placed particular emphasis on a sacred stone as the means by which authority, emanating from the Underworld as a realm of supernatural power, is channeled to an intermediary agent, inhabiting the earth's surface. For example, among the Huichol, a leader of a group sits on a stone as he makes an official pronouncement, as if the stone conferred authority for the "*ex cathedra*" statement (Peter Furst, personal communication, 1976). Clearly negotiations are being conducted in these murals; ritual presentations are being offered to the seated lords, who are so designated by their elaborate dress and the *Ah Po* as well as jaguar skin references to rulership.

Underworld references are present, for the lords have death motifs in their costumes, such as "death bell" collars and crossed bands: two Underworld motifs *par excellence*. Reinforcing the Underworld association of the Structure 16 murals are the chevron and mat motifs in the cornices (Pl. 37), motifs that are commonly shown as borders on Chama funeral pottery. It is possible that the cigar-smoking end figures of the Structure 5 mural are representations of God L, an Underworld lord (Pl. 28), although the confronting figures are shown not in the Underworld itself but above the band of underwater imagery that is occupied by creatures associated with the realm of death. The confronting figures of the Structure 16 mural (Pl. 37) are shown either above or flanked by a U-shaped maw motif reminiscent of the maw motifs with Underworld associations that are depicted elsewhere in Maya art, particularly on Pacal's sarcophagus at Palenque. This U-shaped motif encloses the underwater scene in the lower register, and flanks the confronting figures. It is decorated with elaborated disembodied teeth and fangs and has at its terminal ends hooked motifs decorated with concentric circles similar to the hooked noses associated with Chaac masks in northern Yucatan. As the mouth or threshold of the Underworld, the maw motif in the Structure 16 murals vividly expresses the transitional point between the world of the living and the Underworld. Given the visual evidence, it thus seems possible that these confronting figures are depicting a state of transition that is neither the world of the living nor the world of the dead, but is rather a liminal condition in between.

ORAL TRADITION AS A SOURCE FOR ICONOLOGICAL EXPLANATION

The interior of Structure 5 at Tulum contains a mural illustrating Maya mythology (Pl. 28). If historical themes are presented, they are expressed in mythological terms. The subject matter, or iconographic content, of the Structure 5 mural involves a narrative sequence, for looking at the mural, one has the clear impression that a story is being told in

pictorial form and that specific events are shown. It is hard to avoid the frustrating conclusion that a correct interpretation of the individual scenes depends to a large degree upon knowledge of the whole story being referred to, and since there are no texts coeval with this painting, its narrative content may be lost forever. Access to the iconological level of meaning, however, is possible, and earlier in this chapter this mural was discussed as a Maya vision of the dawn. Other iconological meanings are also packed into the painting, and these other "symbolical values" confirm the general cosmological theme of transition between the world of the dead and the world of the living.

A relevant bit of ethnohistorical data comes down to us in the form of a "Paradise Lost" myth that I call the "Kusansum Myth," which has survived as an oral tradition among the modern Maya in Quintana Roo and Yucatan. First recorded by Tozzer in 1907 and later mentioned by Thompson (1970: 341), the Kusansum Myth may provide another aspect of iconological meaning of the murals. Recounting information obtained from the Maya, Tozzer (1907) discusses the contemporary Maya belief that the world is now in the fourth period of its existence. It was in the first period, a mythical and glorious period, that there

> . . . was a road suspended in the sky, stretching from Tuloom and Coba to Chichen Itza and Uxmal. This pathway was called kusansum or sabke [*sic*] (white road). It was in the nature of a large rope (sum) supposed to be living (kusan) and in the middle flowed blood. It was by this rope that the food was sent to the ancient rulers who lived in the structures now in ruins. For some reason this rope was cut, the blood flowed out, and the rope vanished forever. (Tozzer 1907: 153)

The Kusansum Myth was recorded by Tozzer in the vicinity of Valladolid, a city on the edge of the easternmost Maya region of the Peninsula in the state of Quintana Roo.

Another reference to a cord containing blood appeared in the Merida newspaper, *Novedades de Yucatan, Suplemento Cultural*, of July 2, 1972. In this article, Prof. José A. Xiu related a legend told him by a Maya of Chunhuaz and Chunhuhub, Quintana Roo. The story is a variant of the legend of the dwarf of Uxmal; in it there is reference to "the marvellous rope . . . the "*Cuxaan-zuum*": "I carry here the marvellous rope . . . the *Cuxaan-zuum* . . . which when joined to its twin which is jealously guarded in Mani, at the command '*Moc-te-zumaa*,' will be strung up like an immense suspension bridge between the turbulent Caribbean Sea and this sacred city of Ichanziho." *Cuxaan* can be translated as "living" (Swadesh *et al.* 1970: 96). Thus, the meaning of *Cuxaan-zuum* is "living cord." *Moc* can be translated as "knot"/"to tie" (Swadesh *et al.* 1970: 65); *sum* is a variant of *suum* and can be translated as cord (Swadesh *et al.* 1970: 96). Thus *Moc-te-cumaa* has the significance of "tie together the cord."[11]

The Kusansum Myth compares a mythical pathway in the sky with a *sacbe* (*sabke*), the term used to describe the artificially raised limestone causeways interconnecting ancient Maya cities, the longest known of which is the *sacbe* connecting Coba in Quintana Roo with Yaxuna in Yucatan. The myth also implies that the pathway in the sky that once connected the land of the gods with the earth is like a giant, blood-filled umbilical cord and that when the cord was cut the earth was no longer joined with the sky; the supernatural and the natural worlds were no longer one. Such a myth could have something to do with the "archetypal" (in the Jungian sense) human experience at birth when the cord containing blood, the umbilical cord, is cut severing the infant from its mother. In the Maya Kusansum Myth, the common human experience of cutting the umbilical cord is projected onto a cosmic scale to express the formation of two contrasting and once connected worlds: the antipodal worlds of gods and mortals.

There is a possible reference to the Kusansum Myth in the *Popol Vuh*. According to Edmonson's (1971: 7–8, MS 50–70) translation of the Book of Counsel, a section describing the "First Creation" refers to an earlier manuscript, written long before the original redaction, in which reference is made obliquely to an early statement of Maya cosmogony embodying the Kusansum Myth. The text reads:

> . . . there is no longer A sight of the Book of Counsel. . . . There was once the manuscript of it, And it was written long ago. . . . Great was its account And its description . . . Of when there was finished The birth Of all of heaven And earth: The four creations, The four humiliations, The knowledge Of the four punishments, *The rope of tying together, The line of tying together, The womb of heaven, The womb of earth*. . . . (italics mine)[12]

[11] It is possible that "Moc-te-cumaa" may have been a Pre-Columbian Maya title for a divinely ordained leader signifying a direct connection to the gods. There is evidence during the Colonial Period of at least one case when a leader of rebellious Maya took the title "Moc-te-cumaa," which apparently gave him sacred and secular power; it is not unreasonable to suppose, therefore, that this may be a Pre-Columbian practice that survived into the Colonial Period.

Eduardo Enrique Ríos (1940) and Ma. Teresa Huerta and Patricia Palacios (1976) paraphrase a contemporary Spanish account of the "coronation" of the Maya leader of the 1761 uprising in Cisteil, Sotuta, Yucatan: ". . . en la casa cural, fue coronado rey Jacinto Uc, en medio del major enthusiasmo, con la corona y el manto azul de Nuestra Señora de la Concepción, titulándose: 'Rey Jacinto Uc Lucero, pequeño Moctezuma,' jurándole obediencia varios pueblos cuyos representates asistieron a la curiosíma ceremonia."

It is, of course, also possible that the widely read Jacinto Canek was familiar with the Aztec emperor Moctezuma and took his name as title because of his association with absolute Pre-Columbian rule. In view of the traditional Maya hatred for the Central Mexicans (referred to in the nineteenth century as *Kisin Huacho*, "Devil Mexies"), I think it unlikely that the traditional Maya Canek would have associated himself with a Central Mexican leader. Also, the ethnographic reference to "Moc-te-cumaa" from a highly traditional area of Yucatan mentioned above further suggests a Maya origin for the title.

[12] Edmonson's footnote (1971: 8, MS 67–68) referring to these italicized lines states: "The reference here is probably to the 'tying of the years' at the end of the 52-year cycle; see Sahagún, 1938, 2: 269." If, however, these lines refer instead to a glorious period in the past when heaven and earth were connected as expressed in the Kusansum Myth, the possibility that the concept of "the myth of the eternal return" may be operative here. Eliade's "archetypes and repetition" comes to mind in considering the implications of this interpretation for the Tulum Maya. If the past is a charter for the present and legitimizes whatever is going on, one could ask whether the esoteric Maya preoccupation with the archetypal linking of heaven and earth might also have something to do with such secular concerns as the legitimization of earthly power.

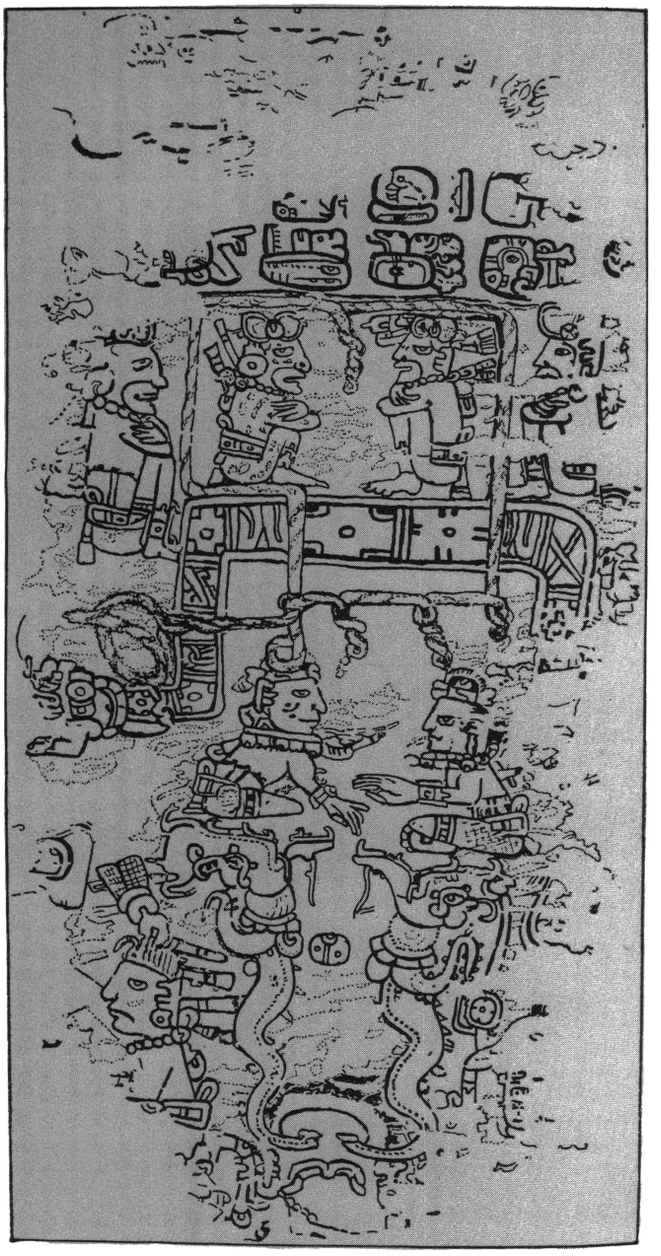


Fig. 123 Confronting deities associated with twisted cord borders, Codex Paris 22 (after Villacorta and Villacorta 1930: 218).

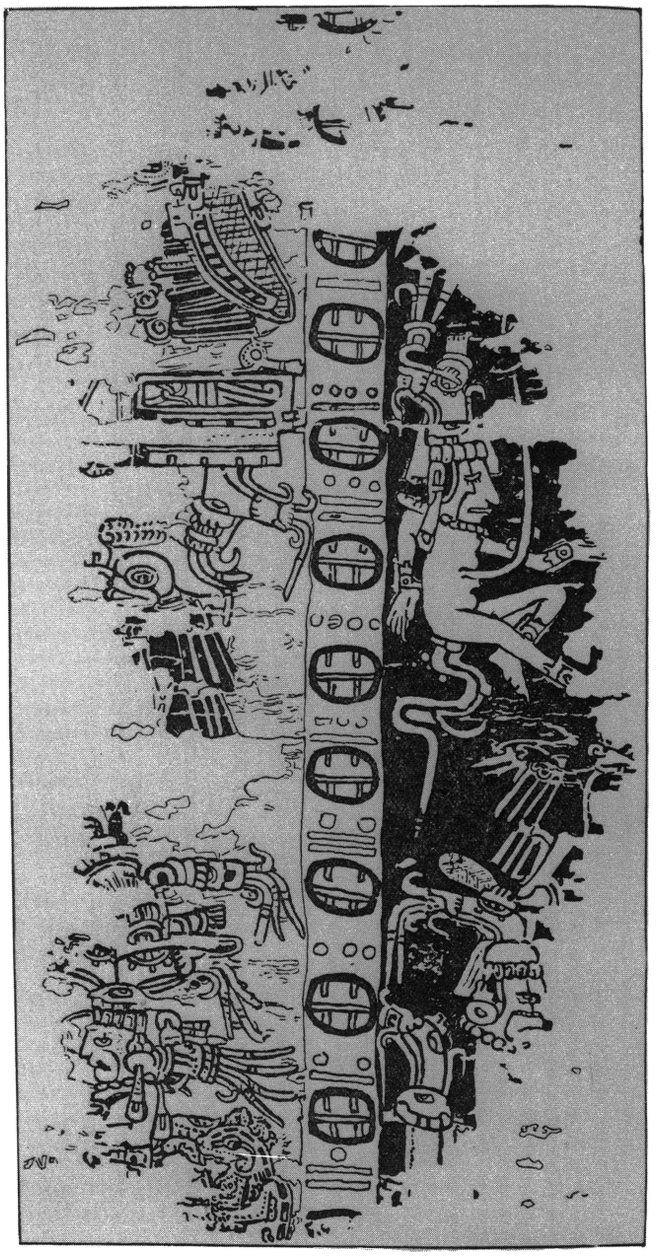


Fig. 124 Dead maize deity with an umbilical cord trailing from above, Codex Paris 19 (after Villacorta and Villacorta 1930: 212).

The Kusansum Myth and Umbilical Cord Representations in the Codices

Twisted cords are used as enframing devices on pages 21 and 22 of the Codex Paris (Villacorta and Villacorta 1930: 216, 218). Page 21 depicts the twisted cord enframing calendrical tables, and page 22 (Fig. 123) shows the cord motif enframing two profile figures that confront each other while seated upon a serpent skyband. The ends of the twisted cord are joined together in a crude knot hanging between the figures; it connects with two confronting figures in a lower register by attaching to the top of the head of each figure. These two confronting figures in the lower register wear "death collars," the figure to the left is marked on the cheek with a death sign, and each is positioned over the open mouth of a serpent deity (Itzam-Cab?), all suggesting underworld associations. As in the register above, these lower figures have between them a crude knot joining the twisted cords that descend from the upper register.

A cord is used even more specifically on page 19 of the Codex Paris (Fig. 124), where it forms an umbilical cord suspended from a damaged section of the page and attached to the belly of a figure who is naked except for

jewelry and a headdress. The figure appears to be seated upon a serpentine motif; the shape of his eye and the unnatural position of his body suggest that he is dead.

The tied umbilical cord shown on page 22 of the Codex Paris (Fig. 123) may refer to a joining of the mythical umbilical cord described in the Kusansum Myth. If so, the possibility that the interior painting of Structure 5 at Tulum depicts an unrecorded aspect of the Kusansum Myth must be considered. It is also possible that the myth's severed, blood-filled cord is reconnected through the ritual ceremony depicted in these murals and that this joining is indicated by the circular knotlike motif at the exact center of the Structure 5 mural (Pl. 28). The vegetal forms growing out of the "umbilical cord" may refer to a pictorial metaphor for a cord containing blood (i.e., Kusansum) and generating life.[13] The twisted cords shown in the interior paintings of Structures 5 and 16 may therefore be umbilical cords: "The rope of tying together, The line of tying together, The womb of heaven, The womb of earth. . . ."

In addition to the Codex Paris, Post-Classic codices from Highland Mexico may also represent the umbilical cord in metaphorical contexts. As part of the International Style of the Late Post-Classic (Robertson 1970), surviving screenfold painting from Highland Mexico is close in style to that of the Codex Paris and to Tulum wall paintings from Structures 5 and 16. For example, on page 15 of the Codex Borgia (Seler 1963), five representations of seated deities each hold in one hand an umbilical cord descending from above and attached to an infant kneeling below. Similar scenes are shown in the Codex Vaticanus 3773B, on pages 38–40, and in the Codex Fejérváry-Mayer, on pages 24, 26, and 27. The Codex Vaticanus shows five scenes of deities (two seated, three standing) each holding up an umbilical cord with an infant attached to it below. On page 40 of the Vaticanus (Seler 1902–03) and on page 27 of the Fejérváry-Mayer, a standing deity is shown holding the vertically oriented umbilical cord in one hand and a cutting axe in the other. On page 26 of the Fejérváry-Mayer, two priests are shown, legs flexed, holding umbilical cords attached at the upper end to sky elements and to the infant at the lower end. In both cases the deity holds a flint knife in one hand. Seler (1963) thought these scenes referred to the Venus cycle, but they may instead, or perhaps also, refer to a ritual cutting of the umbilical cord on a propitious day. In each of the codices mentioned there are five deities shown, each associated with four day signs; thus, a twenty-day cycle is represented. It is known that the Maya held the choice of the day upon which the cutting of the umbilical cord took place as very important and as a religious event with the significance of ritually commencing a human life cycle.

In his translation of the *Popol Vuh*, Edmonson relates Ximénez's comments on the ritual significance of cutting the umbilical cord. Referring to the passage of the *Popul Vuh* that says, "Each of us shall plant this cornstalk for you; In the middle of our house we shall plant it then. It will be the sign of our death If it should dry up" (Edmonson 1971: 108), Ximénez notes:

> They cast lots to see which day would be good for cutting the umbilical cord, and when the day was found they placed the cord over an ear of corn (and) with a (shell) blade that had not been used, they cut it and the blade was thrown in a fountain as something blessed. The ear of corn they stripped of its seeds and planted it if it were time, and if not they kept it until its time and planted and cultivated it as a sacred thing: and shucked and ground they made of it the first *pap* which they gave to the child; the rest that the grain produced was for the priest, and they even kept some from that grain for the child to plant when he grew up. (Edmonson 1971: 108)

Edmonson (1971: 108) also mentions Girard's (1952: 182) report that the ceremonial planting of corn survives in courtyards among the twentieth century Quiche.

The cutting of the umbilical cord over a special ear of corn and the subsequent planting of that corn seems to be a metaphorical expression of the beginning of a human life cycle, i.e., as the cutting of the umbilical cord begins a human life cycle, the planting of corn begins another kind of life cycle. In this regard, it is interesting to note the observation of Luís Azcue y Mancera (1967: 109) that page 19 of the Codex Paris is about "Production." He argues for two meanings for the page in the Maya codex: "Production of Corn" and "Human Production." It is possible that page 19 of the Codex Paris refers to the additional meaning that Ximénez gives in relating the cutting of the umbilical cord with the planting of corn mentioned in the *Popol Vuh*.[14]

Entwined Cord, Entwined Serpent or Umbilical Cord?

An attempt to solve the problem of the identity and significance of the intertwined borders of the painting in Tulum Structures 5 and 16 must encompass the many examples of these borders in Mesoamerican art, from the Post-Classic Period and from earlier periods as well.[15] Obviously, inter-

[13] Laughlin (1962) suggests that flower among the Maya of Zinacantan, Chiapas, signifies blood.

[14] Among the contemporary Highland Maya, Vogt (1971: 42–44) has pointed out that there is a "process of conceptual and structural replication whereby the same concepts are replicated at various levels of culture. . . ." He cites as an example of conceptual replication:

> . . . the similarities in the manner in which the Zinacanteco father and mother (called *tot* and *me'*) care for, or "embrace," as the Indians put it, a child; the manner in which an *h'ilol* (also called *tot*) cares for, or "embraces," a patient during a curing ceremony; and the manner in which the ancestral gods (called *totil e'eletik*) care for, or "embrace," the *chanuls* in *bankilal muk'ta vits* (older brother large mountain). . . . Infant, patient, and *chanul* are all being treated properly and affectionately at various levels in the system: childhood, adulthood, and supernatural world.

The ritual of cutting the umbilical cord and planting corn cited by Ximénez can be seen as examples of Vogt's process of "conceptual replication" among the Maya. The ritual cutting of the umbilical cord may have its cosmic replication in the Kusansum Myth.

[15] That intertwined borders in Mesoamerican painting can be merely decorative with no meaning (Toscano 1944) is rejected as a possibility because there are no meaningless forms in Pre-Columbian art.

twined borders most commonly represent serpents, especially borders of late Teotihuacan mural painting where a serpent head is shown at one end and serpent rattles at the other. Façades of many Maya structures of the Classic Period feature the intertwined serpent border. Sometimes a simple intertwined cord (probably made of henequen fiber) is shown, as in the borders of the Mitla murals, not unrelated to some Tulum murals, where deities are suspended from twisted cords (Fig. 109).

I think we must consider the possibility that the Maya and other peoples in Mesoamerica used the twisted cord to mean various things at once. That the twisted cord represented at Tulum is also an intertwined serpent *as well as* an umbilical cord is not inconsistent with Maya patterns of thought, for multiplicity of meaning is common in almost every aspect of Maya cosmology.[16] The twisted cord border at Tulum can mean *both* intertwined serpent and umbilical cord. In fact, there is ethnohistoric evidence that the Maya thought of the umbilical cord as a serpent. For example, in the *Ritual of the Bacabs* (Roys 1965: 42, MS 123), a reference is made to four snakes that form the world. These snakes are in the next paragraph compared to (among other things) "arbors" and to umbilical cords: "He would be beheaded by his mother, by his progenitress. . . ." The reference is to a snake, i.e., a personified umbilical cord, being cut by the mother, with the cutting being a necessary concomitant of every childbirth. Again in the *Ritual of the Bacabs* (Roys 1965: 58–60, MS 174–180) is a direct reference to childbirth in the "Incantation for the placenta." The umbilical cord as part of the placenta still attaching the unborn child to the mother is metaphorically compared to a biting snake, thereby expressing the pain attending childbirth and, by metaphorical extension, the creation of the world: "Great movement, great pain . . . The great causer of pain are you, the great biter . . ." (Roys 1965: 59, MS 175–178).

A good example of visual simultaneity of meaning can be seen in the skeleton of Stela 50 at Izapa (Fig. 125) the posture of which is identical to that of the dead figure to which an umbilical cord is attached on page 19 of the Codex Paris (Fig. 124). Here the cord emerges from beneath the rib cage of the skeleton, extends horizontally for a short distance, forms a loop, and continues in a vertical direction until it passes through the left hand of a winged figure. The cord then curves downward and then upward to the slightly upraised right hand of the winged figure; just above this hand the cord ends in a serpent head. On Izapa Stela 50 the cord has the meaning of both umbilical cord and serpent. It is therefore very possible that the twisted cord frames of the murals of Tulum Structures 5 and 16 (Pls. 28, 37) are both umbilical cords and intertwined serpents.

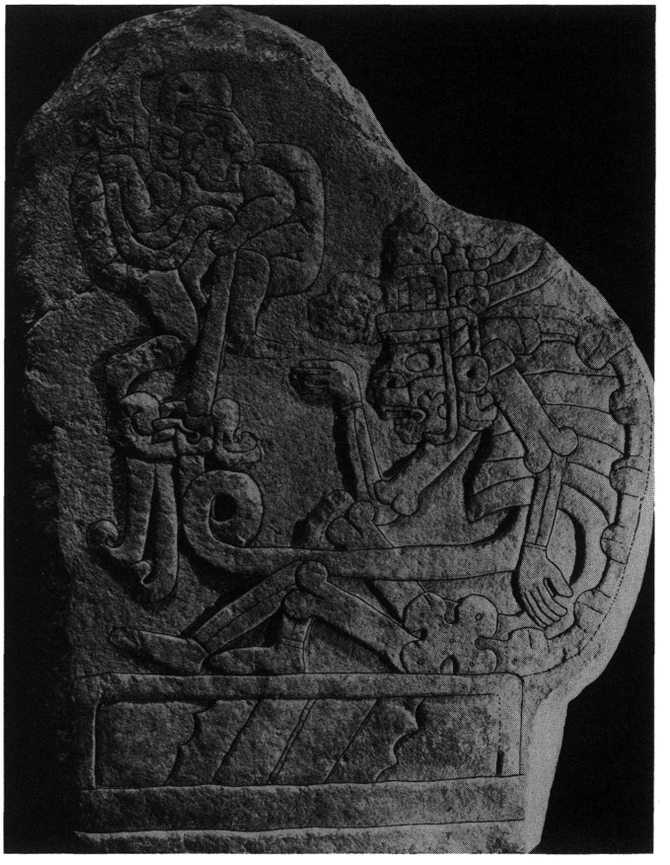


Fig. 125 Izapa Stela 50 showing a skeletal deity attached to an umbilical cord being held by a winged deity above (after Norman 1973: Pl. 50).

These twisted cords on the murals of Tulum Structures 5 and 16 serve as physical links between the upper registers and the lower ones, bands that represent the Upperworld and Underworld respectively. The middle area through which twisted cords are drawn is an area that is neither up nor down; it is a transitional and liminal realm, a region of ritual where the transitory nature of activity is vividly represented by the cosmic umbilical cord, which—like the human umbilical cord—is a line that sustains life through a passage from one state of being to another. According to this view, the cosmic umbilical cord is a visual metaphor for a link between death and life and between the supernatural and natural worlds.

PILGRIMAGE TO TULUM

Victor Turner (1974) has characterized pilgrimage as a liminal phenomenon, building this thesis upon van Gennep's inclusion of pilgrimage as a rite of passage: ". . . every pilgrim, from the time of his departure until his return, was outside of ordinary life and in a transitional state" (van

[16] Kornelia Kurbjuhn (personal communication, 1979) sees the twisted cords at Tulum with leaves and flowers as possibly representing morning glory vines: ". . . It gives power to the user, it makes you see non-wordly things and it makes you speak strangely . . ." (i.e., the effect of morning glory seeds used as a hallucinogen). She further feels these twisted cords may also represent lianas, signifying "sacred enclosures."

Gennep 1975: 185). There is even a mild aspect of secular liminality in the ordinary traveler, for the traveler's goal is to be where he is not. Travel is, as Lévi-Strauss (1955) states in the beginning of *Tristes tropiques*, at best a disorienting experience. Sacred travel or pilgrimage, on the other hand, turns this negative aspect into a desirable condition. Pilgrimage is a ritual process that seeks to place the participant in a state of sacred disorientation, so that he can reorientate himself to "the center out there" (Turner 1973).

For example, at the Medieval pilgrimage center of Chartres, there is a pattern on the floor of the cathedral nave just before the pilgrim's goal that expresses the disorientation and the disintegration of established patterns. This pattern is a circular path of dark stones on light in the form of a spiral maze that eventually leads to the center of the nave. As the pilgrim nears his goal, he experiences the final disorientation prior to his spiritual reintegration: he steps into the nave from the narthex (the threshold [limen] of the church), falls to his knees, and follows the spiral maze leading from the narthex until he reaches its center. In Medieval Christian symbolism, the nave is the body of Christ, and its center is the pilgrim's goal.

It is known that the east coast of Yucatan was a pilgrimage Mecca during the Late Post-Classic Period and that there was an oracle on Cozumel Island off the coast near Tulum to which pilgrims traveled, this being the shrine of *Ix Chel*, the goddess of childbirth, who possessed power to make barren women fecund. It is probable that Tulum was also a Pre-Columbian pilgrimage center with shrines dedicated to a cult of spiritual renewal. As such, pilgrimage can be added to the site's various expressions of liminality: its geographical location, astronomical and cosmic cycles, and painted images.

SYNTHESIS

> The phenomenon of *transition* may be noted in many other human activities . . . they take the form of rites of death and rebirth. (Arnold van Gennep 1975: 182, *The Rites of Passage*)

What is the relationship between the various themes that are visible at Tulum? Is there an underlying unity to the sub-themes of rebirth from death, the emergence from the Underworld as expressed by Xux Ek, Quetzalcoatl-Kukulkan, Venus as the Morning Star, the metaphorical and sacrificial relationship between the sun and Venus and the natural phenomenon of dawn, the Kusansum Myth, and pilgrimage?

As disparate as these sub-themes may seem at first, they are, at a fundamental level, all intimately related, and they form a thematic unity dealing with variations of a similar theme of rebirth and renewal consistent with what I believe to be the *raison d'être* for the cult aspect of Tulum after 1400. I see Tulum as being dedicated to the cosmological concerns of spiritual and physical renewal. The state of being between death and rebirth is the overall theme of post-1400 Tulum. Pilgrimage as ritual disorientation with the goal of spiritual reintegration fits well into this overall schema. Whether pilgrimage and its sacred function provided the impetus for long-distance trade at Tulum or vice-versa is as debatable as whether cities first developed as sacred places or as economic centers. The point is that the two functions go together and that, specifically, it was commerce that probably provided the economic basis for Tulum's mural production.

While it is clear that the graven and painted images at Tulum are primarily about cult not commerce, there is an important structural relationship between the two. In Chapter IV we have seen that by the time the Late Post-Classic murals were painted, a distinct regional cultural pattern had been established: long periods of economic and political stagnation punctuated by relatively short periods of integration with the Mesoamerican economic and political interaction sphere. Such long-standing economic and political instability must have given rise to a cult dedicated to controlling the inherent uncertainty of the Tancah–Tulum region, an uncertainty that was in fact an unavoidable concomitant of its marginal position, both literally and figuratively, on the edge of Mesoamerica.

My adaption of the structuralist approach to Tulum's culture themes comes primarily from the work of Edmund Leach (1976, 1977) who, more than Lévi-Strauss himself, has laid particular stress on the analysis of visual symbols in art for what they say about cultural values. Leach deals with source materials that are accessible to all simply because they are visible. But I have found it necessary to depart from Leach's method because of the nature of the visual data at Tancah and Tulum. Notwithstanding the probable applicability of the Kusansum Myth, there are no universally recognized myths to elucidate the direct or empirically observed subject matter or iconography of these murals.

In considering the iconology of the murals from post-1400 Tulum, the murals have been viewed as part of a total system of "intrinsic meaning" that can be perceived in the geographical, architectural, and mural data. I have sought to define a culture-specific collective unconscious (in the Jungian sense [Jung 1974]) of the Tulum Maya operative at A.D. 1400, primarily on the basis of their mural painting.

Basic to my thinking, or to that of any structuralist argument of visual materials, are the seminal contributions of Hegel (1931) concerning binary oppositions. Very simply, the argument is as follows: we perceive the world through our senses, which transfer to our consciousness information in an unending stream through time and space. Leach (1977) has recently effectively summarized the process by which one experiences at the conscious level the separating of things and events through time. He goes on to say that one can only appreciate the difference between "A" from its background "not-A" by suppressing consciousness of the third element: *the boundary between the two*. Leach (1977: 311) compares this mental operation with what computer engineers call a binary digit or "bit" of information: the

sum of the thing in itself and its opposite as +/−. Providing a simple example of a line divided into two equal parts, Leach suggests that to judge the equality between the two parts one would have to be aware of an imaginary boundary between the two parts which belongs to neither:

> This is a crucial general point. In any binary pair of the type "A"/"not-A," the boundary layer (which is neither the one nor the other but both at once, both "A and not-A"), is specially interesting because it is repressed. This is where structuralism ties in not only with psychoanalysis but also with anthropological theories of primitive religion. *The boundary, the interface layer which separates categories of time and space, is the zone of the sacred, the tabooed, the forbidden.* (Leach 1977: 312) (italics mine)

George Kubler (1962: 16–17) has touched on this kind of "meta-thinking" in *The Shape of Time*. Kubler emphasizes the diachronic element in Leach's "boundary, the interface layer which separates categories of time and space" by focusing on fleeting moments between the past and the future; he rephrases the French art historian and theorist Henri Focillon's query, "Qu'est-ce que c'est donc que l'actualité" as: the present is "when the lighthouse is dark between flashes: it is the instant between the ticks of the watch; it is a void interval slipping forever through time: the rupture between past and future: the gap at the poles of revolving magnetic fields, infinitessimally small but ultimately real. It is the interchronic pause when nothing is happening. It is the void between events."

The concern with the repressed boundary between events in time and space is at the core of understanding the major theme of the Late Post-Classic murals at Tulum. These murals are concerned with the boundary or liminal states between the Underworld and the world of the living, the interface between darkness and light, the moment between the night and the dawn, the moment of supernatural and human birth symbolized by the cutting of the cosmic umbilical cord, the Kusansum, and the mundane human one. The cult of Tulum during the Late Post-Classic seems to have been devoted to that dangerous and sacred boundary between one condition and another. The Late Post-Classic buildings at Tulum and the surviving murals that decorate them are a testament to an obsessive concern with the boundary between the Underworld and the world of the living, and the rulers at Tulum must have derived their authority by fostering and controlling the cult of the liminal state.

We have seen that the thematic organization of Tulum iconology revolves around the implications of the heliacal rising of Venus as the Morning Star, which is represented in Tulum murals as Xux Ek, the wasp star. The tripartite division of the vertical wall on the east side of Structure 5 (Pl. 28) is seen as having directional significance: the Underworld to the west, the skyband to the east, and the world of the living in the transitory center in between. Evidence from the Tancah Cenote Cave suggests that the cult of Venus as the Morning Star was directly associated with water in caves; the act of emerging from the realm of death is dramatically expressed in the orientation of the Tancah Cenote Cave with 1 *Ahau* and *Lamat* glyphs signifying the heliacal rising of Venus (Venus in liminal state) on the east side of the cave facing the dark cold water of the *cenote* to the west. Further, it seems that the Maya understood the geological fact that their underground rivers ran from west to east and emerge (like astronomical bodies, Venus, the sun, and the moon) from the eastern horizon, and that they saw this as another manifestation of physical (in this case hydrological) rebirth after passage through the Underworld.

The mural evidence also points to a Maya belief that there was a sacrificial relationship between Venus and the sun, and that Venus as the Morning Star took the form of the feathered serpent to haul up the sun through that dangerous interface (the boundary between the worlds of death and of the living) and was responsible for the dawn. The price paid for this daily cosmic event was self-immolation by the culture hero of the Tancah–Tulum region, Quetzalcoatl-Kukulkan, who cyclically falls back into the Underworld as Venus so that the sun may pass through the liminal zone of dawn. Such an interpretation provides plausible explanation for the so-called Diving God image prominently represented in the exact center of the Structure 16 murals and in architectural stucco relief sculpture at Tulum.

Although identification of the *dramatis personae* shown in the Late Post-Classic murals at Tulum is not yet resolved, it seems clear that the figures shown are chthonic lords, supernatural beings who usually reside in the Underworld but are temporarily occupying the liminal space between darkness and light. Sacred negotiations are depicted in this quasi-nether realm, where the lords are pacified in order to bring forth the dawn. The fact that the negotiating figures in the Structure 16 mural are shown suspended in the maw or threshold (*limen*) of the Underworld supports this contention (Pl. 37).

Worship of Ix Chel, goddess of childbirth, involves another aspect of sacred liminality at Tulum. As an explanation for an aspect of the complex iconology of the Tulum Structure 5 interior paintings (Pl. 28), oral tradition relates this with the interface of one state of being and another, for the cosmic umbilical cord, the Kusansum, becomes the physical link between the supernatural world and the world of mortals. The cutting of the human umbilical cord at birth was characterized as a human expression of the cosmological transitional state inherent in the Kusansum Myth.

As an induced state of sacred disorientation with an end to spiritual reintegration, pilgrimage probably had an important ritual function on the East Coast complementary to the general theme of liminality which is seen as so pervasive in the iconology of Tulum.

In all of these sub-themes there is an underlying unity in the concentration on cosmic boundaries between night and

day, death and life, underworld and upperworld, immortal and mortal, ritual disorientation and spiritual reintegration. The Tulum Maya were seemingly obsessed with these transitional states of being and seem to have constructed Late Post-Classic Tulum and painted its walls as a testament to their obsession.

The iconological leitmotif of the Tulum murals is the tension between opposing visual characteristics that express the amorphous boundary between one state of being and another. There is a mood of anxiety in the confrontation scenes depicted in the Structures 5 and 16 murals at Tulum (Pls. 28, 37). Although the figures depicted are rigid and their gestures frozen in unnatural positions, a sense of immediacy communicates itself to the viewer. It is remarkable that such stereotyped positions and facial expressions encumbered by a plethora of iconographic detail should contain such potential energy. There is at the same time, despite the lack of pictorial realism, an aspect of the photographic moment, of frozen movement; yet there is also a very prominent aspect of permanence to these images. It is as if the gestures depicted here are known to repeat themselves in the same way endlessly and are so depicted; like a sunrise or some other natural event that occurs in an instant but repeats itself cyclically as part of the natural rhythm of things, there is in these figures an aspect of a moment frozen in time and space.

The quality of permanence one senses in viewing the Structure 5 and 16 murals is enhanced by the contrived pictorial sameness in the linear treatment of border motifs, offerings, figures, and their costume detailing. One's eye is not attracted to any particular focus in these murals, but rather it is evenly dispersed over the entire surface of the wall; decentralization and the lack of focus contribute to the sense of visual uniformity. These paintings, in fact, remind me of the structure of surviving Pre-Columbian music I have heard from towns in Quintana Roo that seems to have neither a beginning nor an end but only a middle. Similarly, the paintings appear to be infinitely expandable.

Although it would seem contradictory that something permanent would appear as being momentarily frozen in time and space, apparent contradictions or paradoxes are often desired goals in art. As we have seen above, this is very much in keeping with the complex meaning inherent in the Structure 5 and 16 murals.

The visual paradox is also evident in Structure 16 because the murals decorate the exterior walls of an inner building encapsulated by an outer gallery (Figs. 72, 73). The outer shell and the superstructure of this three-in-one building were originally painted in bright pigments of two reds, yellow-ochre, blue, and black, providing a richness of color (Pls. 30–33). In contrast, the inner building was painted in monochromes of blue on a black ground (Pl. 37). The strong visual contrast of these two palettes must have created an overwhelming effect on the observer; the inner room would have appeared as a dark core surrounded by vibrant color, the inner room all the more dark by being in shadow, and the outer shell all the more bright by being in the direct rays of the tropical sun. The contrasting of monochromatic and polychromatic painting is thus another means of bringing together opposite pictorial characteristics, and, as such, is symbolic of the sacred, transitional state of being that is so fundamental in the collective unconscious of the Tulum Maya.

The overall design of Structure 16 recapitulates and synthesizes the sub-themes discussed in this chapter: the pictorial tension noted in the monochromatic interior juxtaposed with the polychromatic exterior visually expresses the transitory relationship of light (symbolizing the Upperworld) and dark (symbolizing the Underworld with its myriad associations). Tulum Structure 16 is a visual synthesis of the theme of liminality. It is a painted architectural metaphor for the interface of sacred consciousness; it is an image of that which is intermediate, the delicate and sacred boundary between light and darkness which confronts Zama, "City of the Dawn," each morning.

EPILOGUE

Murals are incontrovertible evidence of a vision of reality presented as visual symbols embodying, in the case of Tancah–Tulum, patterns of trade, conquest and a unique regional *Weltanschauung*.

I have not tried to make an existential statement as to what the Tancah–Tulum Maya felt about their environment, outsiders, cycles of cult, rebirth, and so forth. Such an attempt would be futile because we could never test our conclusions. The Tancah–Tulum culture has ceased to exist, but its material culture, and the murals in particular, remains as a public statement expressed in a visual symbolic language that I have sought to understand. Although we may never know positively whether the Maya of Tancah–Tulum believed in Quetzalcoatl-Kukulkan or Ix Chel or environmental factors expressing themes of rebirth, we can see, nevertheless, that the Tancah–Tulum Maya visually expressed such beliefs, and that on the level of visual communication such beliefs stand as an immutable statement. And we can see that these meanings are evident also in Tancah–Tulum's cyclic commercial interaction and isolation *vis-à-vis* the rest of Mesoamerica. Ultimately, this is why the proper recording of these visual data is so crucial.

The Tancah–Tulum murals speak to us directly as visual symbols. If they are not understood correctly, it is the fault of the listener, not the speaker.

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1605: Governor of Yucatan to King, 13 September 1605.

MEXICO 360
1638: Governor of Yucatan to King, 10 July 1638.

MEXICO 361
1659: Documentos sobre la pérdida del galeón Santiago. . . .
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MEXICO 369
1599: Bishop of Yucatan to King, 15 July 1599.

MEXICO 1017
1719: Cabildo of Merida to King, 7 October 1719.

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APPENDIX I

The Tancah Ceramic Situation: Cultural and Historical Insights From an Alternative Material Class

Joseph W. Ball

INTRODUCTION

THE PRIMARY FOCUS of the Quintana Roo Murals Project involved the accurate recording, analysis, and interpretation of the richly depictive mural art to be found among the ruined buildings of the central east coast of Quintana Roo. The ultimate goal of this undertaking consists not merely in the preservation and publication of a poorly known yet extremely important corpus of Pre-Hispanic Mesoamerican art, but in an inferential reconstruction of historical events and cultural processes among the Maya of the central east coast using this medium as a primary data source.

The mechanical operations of clearing and consolidation carried out during the course of locating, exposing, and recording such murals yielded a secondary byproduct in the form of fairly sizeable collections of ancient pottery sherds. These were supplemented by several small lots of sherds and fifteen whole vessels recovered by Miller and his co-workers from a small series of test pits and trenches excavated for the twin purposes of establishing architectural associations and securing data to permit ceramic phasing of particular structures.[1] Altogether, some 7,600 sherds were recovered.

While the focus of the project, as stated above, was on the murals and their significance, it was suspected by Miller that complementary information might be educible from the ceramics. At his request, I undertook this task. Following several stimulating discussions concerning our joint interests and disparate data classes, we decided that an interesting and potentially fruitful manner of dealing with the pottery was through a separate and distinct analysis, interpretation, and presentation of that material category.[2] Through such, it was hoped to arrive independently at conclusions regarding culture and history on the central east coast of Quintana Roo and to allow these to serve as checks on each other. At the same time, interested readers might evaluate for themselves the extent to which the data of several discrete material classes confirm, complement, or contradict each other. This report is the product of our decision and sets forth an independent look at culture and history at Tancah as inferred from available ceramic collections. Integration of the ceramic data with other classes and interpretive synthesis of the whole is presented by Miller in Chapter IV.

Unfortunately, the vast majority (61.6%) of the sherd material consists of severely eroded and mixed fragments from open contexts such as building-collapse debris, on- and off-terrace surface deposits, and unsealed platform fill. Well-preserved, large sherds were rare, as were lots deriving from securely sealed stratigraphic situations. In light of these factors, it was my decision that a full-scale typological analysis of the available Tancah material was neither worthwhile nor even practicable. Instead, I carried out a visual inspection of all available lots, evaluating their content in terms of known types and modes, and attempting to make chronological assessments as possible using the latter criteria. Observations concerning local cultural continuities and changes as well as external contacts and influences were then inductively formulated. What follows is a presentation that best suits the ceramic data as I found them: a narrative format loosely structured in terms of major temporal intervals and ceramic sphere manifestations at Tancah.

[1] One whole and one fragmented vessel came from underwater excavations into the Tancah Cenote Cave.

[2] The research upon which this report is based was supported in part by Grant No. 7792 from the Penrose Fund of the American Philosophical Society and by funds from the Tancah–Tulum Project, Dumbarton Oaks. In its preparation I benefited considerably from several discussions with Fernando Robles Castellanos, Anthony P. Andrews, and Arthur G. Miller. Responsibility for the conclusions drawn and presented, however, rests entirely with me.

THE PRE-CLASSIC BACKGROUND
First Occupation at Tancah *ca.* 300 B.C.–75 B.C.

The earliest ceramic materials known to occur at Tancah are believed to pertain to a segment of the Late Formative period dating to between roughly 300 B.C. and 75 B.C. Their actual placement within this interval is, of course, difficult if not impossible to establish with any degree of certainty. Once started, however, occupation at Tancah appears to have been continuous through the remainder of the Formative.

Pottery of this period was extremely rare in Miller's excavations, occurring only as thin scatters of sherds at the bottoms of several pits. This is far from surprising, in that Sanders's (1960: 169–174, charts 1, 2) earlier work at the site suggested that the zone in which Structure 44 is located experienced only light use during the Formative through Early Classic eras, heavy occupational as well as structural activity commencing there only during the Late Classic Period.

The early Tancah material can be duplicated—or very nearly so—among collections deriving from a series of sites along the northeast Yucatan littoral. Among these are Chiquila on the Laguna de Yalahau, the Alegria site-series along the Rio Lagartos, and El Cerrito on the Bocas de Dzilam. Inland, several localities in northern Quintana Roo (among them Coba, Kantunil Kin, El Diez, Kilometer 14, Leona Vicario, and Santa Maria) have yielded comparable samples, and there is also a possible occurrence of related material at Yaxuna in Yucatan. The known distribution of such pottery is suggestive of the presence of a ceramic sphere encompassing the northeastern corner of the Yucatan peninsula between the third and mid-first centuries B.C. Since the defining characteristics of the sphere were first isolated as a tentative "Cienaga complex" based on a series of collections made along the Rio Lagartos (Ball 1977a: 169–172), I have suggested extending the designation "Cienaga" to the general body of complexes sharing the typological content recognized as pertaining to the Cienaga ceramic phase at the midden sites along the latter river (Ball 1978: 122–125). The Cienaga ceramic sphere thus would encompass the Yucatan-Quintana Roo littoral from Bocas de Dzilam to Tancah, the northern third of inland Quintana Roo, and an undetermined portion of inland Yucatan, possibly extending as far westward as Yaxuna. Chronologically, it would have been a contemporary of the Komchen ceramic sphere of the northwestern plains of Yucatan and of the earlier centuries of the Chicanel sphere manifestation in the central and southern lowlands.

Compositional treatments of the Cienaga sphere and its manifestation at Tancah have been presented on two previous occasions (Sanders 1960: 233–235, 250–253; Ball 1978: 124), and the Miller collections contribute nothing material to these. The newly recovered sherds included representations of the following typological units:

Chancenote Striated: Varieties Unspecified (unslipped-striated/plain monopod-based and rounded-bottomed jars)

Unspecified Monochrome Red (deep, outsloping to outcurving-sided dishes with everted-bolstered rims and flat bottoms)

Unspecified Monochrome Cream (deep, outsloping to outcurving-sided dishes with everted-bolstered rims and flat bottoms)

Unspecified Variegated (deep, outsloping to outcurving-sided dishes with everted-bolstered rims and flat bottoms; globular-bodied jars with high vertical necks, wide mouths, everted-bolstered rims and flat bottoms)

Unspecified Dichrome Red-on-cream (deep, outsloping to outcurving-sided dishes with everted rims and flat bottoms; globular-bodied jars with high vertical necks, wide mouths, everted bolstered rims and flat bottoms)

Unspecified Incised Red (deep, outsloping to outcurving-sided dishes with everted-bolstered rims and flat bottoms)

Unspecified Incised dichrome (red-on-cream) (deep, outsloping to outcurving-sided dishes with everted-bolstered rims and flat bottoms)

Slipped sherds of this horizon constitute approximately five percent of the recognizable material recovered. A comparable statistic is not presentable for the unslipped type-classes in that the degree of persistence by superficially identical unslipped-striated/plain vessels into the subsequent Protoclassic and even Early Classic remains unknown at this time. There is some reason, however, to believe that it was not until the mid to late fifth century A.D. that significant alterations in their appearance took place.

The earliest inhabitants of the Tancah locality would appear to have settled there sometime between 300 and 75 B.C. and to have emigrated from somewhere on the northwestern to northcentral coastal plain of Yucatan. In all likelihood they were attracted by the rich livelihood offered by the maritime setting and established themselves as a sedentary fishing-collecting community on the Tancah site. Elsewhere, their remains are known to comprise nothing more than non-architectural village or camp middens, and it seems unlikely that the initial Tancah settlement consisted of anything more substantial. Subsequent events and developments, however, transformed this central east coast community into a minor organizational center of some importance before the close of the third century A.D.

THE PRE-CLASSIC BACKGROUND
Influences from the Southwest, *ca.* 75 B.C.–A.D. 250

The first century B.C. witnessed significant changes on the central east coast of the Yucatan peninsula. Ceramic wares,[3]

[3] As herein employed, *ware* refers strictly and exclusively to gross surface finish characteristics. Paste, temper, and other technological attributes were not considered relevant to ware assignment.

groups, types, and even varieties characteristic of the southern central lowlands made their appearance at this time, and I would equate the latter with an actual movement of human populations rather than with some form of exchange or stimulus diffusion. The Chicanel sphere character of the materials in question is too qualitatively and quantitatively emphatic to reflect anything other than the presence of a new social unit preferring, utilizing, and discarding ceramic commodities of this nature.

I have elsewhere (Ball 1977a; 1978) discussed the possible demographic pressures behind this movement of peoples and will not repeat them here. Suffice to say that their entry to the Tancah locality marked the beginning of a centuries-long pattern of ceramic interaction between the central east Quintana Roo coast and a zone somewhere in the northeastern Peten–northwestern Belize-Rio Hondo neighborhood. Whether this pattern entailed actual cultural homogeneity or merely the passage of goods from one zone to the other is not known.

Slipped sherds assignable to this horizon constitute approximately one percent of the recognizable material recovered and include the following types, all of true Paso Caballo Waxy Ware:

Sierra Red: Sierra Variety
Polvero Black: Polvero Variety
Repasto Black-on-red: Repasto Variety
Escobal Red-on-buff: Escobal Variety
Sarteneja Usulutan: Sarteneja Variety
Laguna Verde Incised: Laguna Verde Variety

All occurred via outcurving-sided dishes with everted rims, *Sierra Red* and *Polvero Black* appearing in short-necked jar form as well. In addition to these, it is highly probable that a local red ware tradition characterized by an exceptionally flaky and easily eroded slip made its appearance during this phase and is represented among the weathered-and-unclassified portion of the collections. Sanders (1960: 234) notes that R. E. Smith was able to recognize some such material among his Tancah collections, and certain form modes occurring in Miller's are so suggestive. The latter include several eroded rounded Z-angle dish fragments and one modified hollow mammiform support similar to a number of such known from Becan (see Ball 1977b: fig. 17e). It is unclear as to what effects the new influences from the southwest might have had on the indigenous unslipped-striated/plain ware tradition; my own impression is that they were minimal if any.

In addition to new ceramic styles and possibly peoples, the interval between 75 B.C. and A.D. 250 saw the beginnings of formal architectural undertakings at Tancah. I suspect these did not actually commence until the final century of that span, and, in fact, the earliest surely dateable structure on the site currently known (Structure 42-4th) most probably was built at the end of the Pre-Classic. Interestingly, the century ending in A.D. 250 also may have witnessed the first maritime contacts between the central east Quintana Roo coast and that of northwest Yucatan, with the former serving as an intermediate node of contact between the latter and the Rio Hondo zone (see Ball 1978: 126–128, fig. 7).

CLASSIC PERIOD DEVELOPMENTS

Continuities and Disruptions, *ca.* A.D. 250–750

The ceramic evidence indicates that the five centuries from A.D. 250 to 750 were an era of gradual growth and shifting interaction patterns for Tancah. Structure 42-3rd most probably was completed during the initial years of this span to judge from the enclosed Burial 1. Interestingly, the two pottery vessels accompanying this interment suggest both a continuity and broadening of the external contacts of the preceding Pre-Classic period. A basal-flanged bowl of *Tituc Orange Polychrome: Tituc Variety* (Pl. 3) is possibly of northern Belize origin. A medial-flanged dish of *Shangurro Red-on-orange* (Pl. 2), in contrast, very probably is a product of the northwestern coastal plain of Yucatan. A monochrome orange rounded Z-angle bowl of identical ware and ceramic group membership was recovered by Sanders (1960: 165, 232, fig. 15*l*) from a contemporary burial some 200 meters to the northeast in Group A.

Unfortunately, materials typologically assignable to the centuries between A.D. 250 and 450 are limited almost entirely to the aforementioned vessels and a comparatively small number of sherds identifiable as *Dos Arroyos Orange Polychrome* and *Caldero Buff Polychrome, Varieties Unspecified*. The latter were included in structural fill overlying Structure 42-3rd and presumably represent refuse obtained for this purpose from other portions of the site. The absence of contemporary plain wares is somewhat disturbing, and possibly more apparent than real. At the neighboring inland center of Coba, Fernando Robles C. (personal communication, 1977) has documented a probable continuity of Formative-like ceramics into the fifth century A.D., and it seems reasonable to assume a similar persistence for Tancah. Sanders (1960: 234–235), it should be recalled, suggested some such situation over twenty years ago. Thus, some proportion of the seemingly overabundant "Late Formative" unslipped-striated/plain ware very probably pertains to this interval, as does a certain amount of the weathered-and-unclassified material from the lower levels of Miller's excavations. At least some of the latter is believed to represent sherds of the easily eroded flaky red ware mentioned above.

Although the *Dos Arroyos Orange* and *Caldero Buff Polychromes* could conceivably derive from anywhere between the northcentral Peten and northern Campeche, I would argue for the general northern Belize-Rio Hondo area on grounds of economy of explanation. What appears to be identical material has been recovered, for example, at Aventura (personal observation, 1977).

Between the mid-fifth and late seventh centuries, Tancah underwent what—at least in terms of ceramics—appears

to have been a major reorientation. It was during this interval that Coba emerged as the largest and most important organizational center on the northeastern peninsula, and it seems plausible that it also was during this time that the latter established a regular satellite port-facility on the nearby east coast at Tancah.

Reliable differentiation of unslipped-striated/plain utility jars dating to this interval remains problematical; however, a new form-mode involving unslipped-striated/plain cauldrons with rounded-incurving sides, strap handles, restricted orifices, and unstriated bolstered rims does appear to have emerged. This form persisted through the Middle and Late Classic and into the Terminal Classic, finally developing into *Vista Alegre Striated* (Sanders 1960: 248–249) with the extension of striation onto the bolstered rim. Miller's collections also yielded three types believed to have been restricted in occurrence to the century from A.D. 450 to 550:

Cetelac Fibre-temper: Cetelac Variety (basins or cauldrons with rounded-incurving sides, strap handles, restricted orifices, and bolstered rims)
Undesignated Black-on-yellowish buff (basins with rounded-incurving sides, slightly restricted orifices, and flattened-bolstered rims)
Tituc Orange Polychrome: Camichin Variety (basal-flanged dishes with annular bases)

All of these are believed to be products of a region encompassing the northeastern quarter of the peninsula, although the *Camichin Variety* of *Tituc Orange Polychrome* may owe its ultimate inspiration to a northern Belize tradition of polychrome-painted pottery. It is worth noting that sherds of this single type amounted to some three percent of the total recognizable material—a decidedly impressive quantity (89 sherds).

Of the apparent domestic-utility wares, *Cetelac Fibre-temper* is an unusual, light-weight pottery tempered with vegetal fibers and currently known to occur only at Tancah, Coba, Holkotun near the mouth of the Rio Lagartos, Yaxuna, and Dzibilchaltun. The undesignated unslipped-striated/plain and black-on-buff types each initiated a tradition that remained important in the Coba-Tancah zone for several centuries to come. In the black-on-buff bolster-rimmed basins, we see what I believe to be the direct forerunner first of *Sacalum Black-on-slate* (Puuc Slate Ware) and later of *Xcanchakan Black-on-cream* (Peto Cream Ware). The unslipped-striated/plain cauldrons, similarly, represent the beginning of a vessel form tradition that extended at least through the Terminal Classic and very probably into the Post-Classic as well. Proper documentation of these continua is, of course, dependent upon the availability of substantial bodies of well-preserved, stratigraphically related pottery such as is not currently available from Tancah. Excavations at nearby Coba, however, did yield such a corpus, and full elucidation of these ceramic developments has been undertaken by Fernando Robles C. of the Instituto Nacional de Antropología e Historia on their basis.

In addition to the platform/plaza flooring of the Structure 44 Complex site, Miller's excavations indicated the existence of substantial deposits of refuse dating to the late fifth through mid-sixth century period underlying the sixteenth century chapel (Structure 71). Among the materials recovered was one complete but severely eroded basal-flanged dish of *Tituc Orange Polychrome: Camichin Variety* which Miller believes was curated and redeposited as a centerline, subfloor cache in conjunction with the building of the chapel (Fig. 63) (see Chapter II). Also dateable to this horizon is a complete narrow-mouthed, low-necked jar of glossy brownish red (possibly *Chuburna Brown*) recovered from the depths of the Tancah *cenote*.

At least five of the burials encountered by Miller inside Structure 42-3rd during the course of his 1974 investigations can be placed within the following century (A.D. 550–650). Of these, four (Nos. 3, 4, 6, 10) were accompanied by medial-ridged tripod dishes of *Corona Red: Corona Variety* (Fig. 28; Miller's Table II). This is a common Middle Classic type at Coba and is also known from farther inland to the southwest at Becan (see Ball 1977b: 21–23; Brainerd 1958: fig. 2f, g). Burial 6 also yielded a large fragment of a *Dos Arroyos Orange Polychrome* basal-flanged bowl (Fig. 34), presumably a curated item of somewhat earlier vintage than the interment. Interaction with northern Belize again is suggested by the furnishings of Burial 2 which include a dish of *Saxche Orange Polychrome: Resist Variety* (Pl. 4). The only other occurrences of this distinctive Saxche group variety known to me are at Coba (Brainerd 1958: fig. 3a21) and Aventura (personal observation, 1977).

Corona Red and *Saxche Orange Polychrome* sherds also are represented among the non-burial ceramics of this interval, as are *Petkanche Orange Polychrome* and a low-gloss brownish red jar type. It was not possible to determine to what extent any of these persisted into the seventh century or overlapped in production and use with Puuc Slate Ware which Robles Castellanos (personal communication, 1977) believes to have been coming into use at Coba during this time. Definition of contemporary unslipped-striated/plain wares also was once more stymied by the nature of the collections. It should be noted that *Petkanche Orange Polychrome*, which comprised 0.85 percent of the identifiable material, is believed to have been an extremely important Rio Hondo zone trade-ware of the early through middle Late Classic horizon (*ca.* A.D. 600–750).

The seventh century A.D. witnessed the continued growth of Coba in physical size and political power. Contemporaneous events at Tancah are discussed fully by Miller (see Chapter IV), and I shall continue to concern myself exclusively with the ceramic picture. At Coba, this was the era of emergence of the Puuc Slate Ware ceramic tradition, and it can reasonably be assumed that such was true for Tancah as well. Current evidence does not support an extension of this or any related tradition into the northern Belize region

until the ninth century at the earliest, and this coupled with the reciprocal absence of apparent eighth century Belize-derived influences at Tancah, leads me to suspect a break in the interaction pattern between the two zones at about this time. Elucidation of the reasons for this disruption of a more than seven centuries-long pattern must await further investigations at Coba and in northern Belize.

From roughly the mid to late seventh century until about the late tenth to early eleventh, the predominant pottery ware present at Tancah was Puuc Slate. Of the collections made by Miller, about sixteen percent of the identifiable total pertained to this. Recognizable types included *Muna Slate*, *Sacalum Black-on-slate*, and *Chumayel Red-on-slate*, each represented via a combination of cauldron, jar, and basal-break tripod dish forms. Contemporary with these were a variety of unslipped-striated jars featuring outcurved, outrolled, outfolded, or heavily bolstered rims—often with attached handles. The bolster-rimmed unslipped-striated/plain restricted-orifice cauldron tradition also appears to have continued to enjoy popularity. Once more, however, the precise ordinal placements and relationships of the various unslipped-striated/plain types were not educible from the available collections.

With respect to fine wares, the first new one to make its appearance was Thin Slate. I believe this ware to have been a development and primary product of the Coba region and would subjectively argue for its initial appearance at about A.D. 750±20, that is, somewhat just before its late eighth century introduction into the western peninsula Puuc zone and just after the cessation of stela-altar complex-related activities at Coba (9.15.1.2.8). At Tancah, Ticul group types amount to some eight percent of the identifiable collections and include *Ticul Thin-slate*, *Xul Incised*, and *Tabi Gouged-Incised*. Outcurving-sided, everted-rim tripod dishes, incurving-sided bowls with flattened bottoms, and outsloping-sided vases with labial and basal molding are the most commonly occurring forms.

TERMINAL CLASSIC FLORESCENCE AND ABANDONMENT

Post-Initial Series Developments at Tancah, *ca.* A.D. 750–1150

On the Structure 44 site, the next archaeologically detected activities seem to have taken place during the half century between A.D. 750 and 800 and to have included the interment of at least one burial and the laying of a new platform or plaza floor (Structure 42-2nd). Burial 8 contained an outsloping-sided bowl of *Sayan Red-on-cream* (Fig. 38), dateable to the late eighth or ninth century A.D. The vessel is very possibly a product of northern Campeche. Fill beneath and within the plaster floor overlying this interment included substantial quantities of late fifth through mid-eighth century ceramic refuse, but only two or three sherds which could certainly be assigned a slightly later date. My impression is that both the interment and the flooring most probably date to the late eighth century.

Intruding into and almost completely destroying Burial 8 was Burial 7. This included a slab-support tripod dish of *Chumayel Red-on-slate* (Fig. 44) and a red-on-orange red bowl of Puuc Red Ware (Fig. 43). Neither of the latter can be placed very precisely in time at the present; however, their deposition must postdate that of Burial 8. In conjunction with this interment, the aforementioned plaster flooring was broken through and then resealed by means of a major resurfacing, forming Structure 42: Unit 1. Interestingly, at least one other interment, Burial 9, also was made at this time. The latter included a lightly fluted bowl of Teabo group Puuc Red Ware (Fig. 40) and was accompanied as well by a vase and two tripod dishes of *Ticul Thin-slate* apparently left on the plaster pavement immediately above it.

Ticul group Thin Slate Ware conventionally is assigned a terminal date of *ca.* A.D. 1000 (Smith 1971: 30). Kukula group Peto Cream Ware, on the other hand, has been allowed a maximal initiation date of *ca.* 1100 (Andrews v and Simmons, personal communications, 1977). The Tancah situation strongly suggests that modification of one or both of these estimates is necessary. Of direct bearing on this question is the Balankanche Cave-shrine site (Andrews IV 1970). There, intact vessels pertaining to the Ticul and Kukula groups were found sealed together in an early tenth century context (see Andrews IV 1970: 59–60, figs. 18c, 34c).

Incensario fragments recovered from the fill do little to clarify the situation in that at least two types are represented among them. One, *Tepakan Composite*, has been assigned a conventional span of A.D. 800–1000 (Smith 1971: 28–29); while the other, *Cehac-Hunacti Composite*, generally is held to postdate A.D. 1200 in appearance (Smith 1971: 24). Again, I believe some adjustment of these ascriptions is necessary, and this would seem to be borne out by the occurrence of at least one *Cehac-Hunacti Composite* incense burner in direct contextual association with Ticul group Thin Slate Ware at Becan, Campeche (J. Taschek, unpublished field notes, 1973). It is probable that a developmental relationship pertains between *Tepakan* and *Cehac-Hunacti Composite* censers, and this, in combination with the foregoing data, tends to suggest a somewhat earlier placement for those of the latter type than currently is assumed.

Undecorated rounded-side dishes of Fine Orange Paste-Ware (Altar/Silho group) also occur in the Structure 42 platform deposits, but these too have been found to be somewhat problematical with respect to temporal placement (Ball 1977b: 45–47).

Determination of the construction date of Structure 44 and the painting of its earliest murals is tied directly to the foregoing problem. Among the inclusions in and beneath Structure 44-1st were sherds of fully developed *Xcanchakan Black-on-cream*, *Cehac-Hunacti Composite*, *Tepakan*

Composite, *Ticul Thin-slate*, *Muna Slate*, *Chumayel Red-on-slate*, and transitional Puuc Slate-Peto Cream Ware material. No examples of Mayapan Red Ware, Matillas group Fine Orange Paste-Ware, Tulum Red Ware, or *Chen Mul Modeled* effigy censers were encountered, despite their presence in the above-floor room fill and on-terrace refuse associated with Structure 44 itself. A rather broad temporal range extending from the ninth through the twelfth century is so delimited; I believe that a late tenth or eleventh century placement is most probably correct.

A final bit of "ceramic" data to consider are those contained in the mural paintings of Structure 12 of Tancah, which Miller places as stylistically earlier than those of Structure 44 (see Chapter III). Vessels depicted include *Cehac-Hunacti Composite* incense burners, *Altar Orange* tripod dishes, and a Ticul group Thin Slate bowl (Pl. 6). The latter is of considerable significance in that the vessel actually shown possesses a red-painted labial molding. I am aware of only one actual archaeological occurrence of this attribute combination, and that is on a Thin Slate Ware vase recovered from the Balankanche Cave-shrine (Andrews IV 1970: 40, fig. 34c).

It is my opinion that any compositional treatment of the Terminal Classic Tancah ceramic situation would be premature on the basis of the available collections; however, I offer the following as a probably valid minimum-content listing:

Vista Alegre Striated: Vista Alegre Variety (basins or cauldrons with incurving-rounded sides, restricted orifices, bolstered rims, and strap handles)
Muna Slate: Muna Variety (basins or cauldrons with incurving-rounded sides, unrestricted to slightly restricted orifices, bolstered rims, and strap handles)
Sacalum Black-on-slate: Sacalum Variety (basins or cauldrons with incurving-rounded sides, unrestricted to slightly restricted orifices, bolstered rims, and strap handles)
Chumayel Red-on-slate: Chumayel Variety (basins or cauldrons with incurving-rounded sides, unrestricted to slightly restricted orifices, bolstered rims, and strap handles)
Xcanchakan Black-on-cream: Xcanchakan Variety (jars with high necks and narrow mouths)
Xcanchakan Black-on-cream: Sharp-incised Variety (tripod grater dishes with hollow, oven-shape supports)
Mama Red: Mama Variety (basins or cauldrons with incurving-rounded sides, slightly restricted orifices, flattened-bolstered rims, and strap handles)
Papacal Incised: Papacal Variety (tripod grater dishes with hollow, oven-shape supports)
Ticul Thin-slate: Ticul Variety (basins or cauldrons with incurving-rounded sides, unrestricted to slightly restricted orifices, and bolstered rims; outcurving-sided, everted-rim tripod dishes; incurving-sided bowls with flattened bottoms; outsloping-sided vases with labial and basal moldings)
Xul Incised: Xul Variety (incurving-sided bowls)
Tabi Gouged-Incised: Tabi Variety (incurving-sided bowls)
Altar Orange: Altar Variety (incurving-sided dishes)
Tepakan Composite: Tepakan Variety (pedestal-based incense burners with rounded sides, bolstered rims, appliqued "spikes," and appliqued-impressed fillets)
Cehac-Hunacti Composite: Cehac-Hunacti Variety (pedestal-based, "hourglass"-shaped incense burners with appliqued disks, "spikes," and impressed fillets.

Most of these were common to abundant in occurrence; however, the *Mama Red* and *Papacal Incised* combined-total amounted to only three sherds.

Ceramic developments at Tancah subsequent to the Terminal Classic are difficult to establish on the basis of the available collections and contextual data. The absence of Chichen Itza-linked wares is possibly explicable on the basis of competitive exclusion involving the latter center and a Puuc zone-Coba-Tancah interaction sphere (see Ball 1979: 32–34); however, the extreme rarity of many Mayapan horizon materials is more difficult to understand unless Tancah was abandoned prior to their full emergence. Overall evaluation of the combined Miller and Sanders ceramic collections has led me to believe that such was indeed the case, and that the center fell into disuse sometime between A.D. 1050 and 1200.[4]

In sum, the ceramic picture for Tancah from about A.D. 450 on into the eleventh century is one of slow, stable development and continuity with outward orientations to Coba, the Puuc zone, and the southern Campeche-Tabasco coastal plain. Interaction with northern Belize, seemingly interrupted during the seventh century, appears to have been renewed to some extent during the ninth and/or tenth. This is suggested by the shared presence at Tancah and Aventura of Altar group Fine Orange Paste-Ware and Ticul group Thin Slate Ware. The latter also is known from a number of intermediate points, including Ichpaatun and Calderitas.

THE PROTOHISTORIC FINALE
Reoccupation, Revival, and Final Abandonment, *ca.* A.D. 1300/1400–1600+

The final ceramically visible phase of occupation at Tancah constitutes something of a disjunction from the foregoing continuum. Miller's collections, although limited, did indicate its predominant composition to be Tulum Red Ware. Associated with this were lesser amounts of Matillas group Fine Orange Paste-Ware, *Chen Mul Modeled* effigy censers, and, possibly, some *Xcanchakan Black-on-cream*. It is also to be presumed that some quantity of Tulum Plain Ware material is present among the large numbers of severely

[4]This suggests the possibility of a hiatus between the laying down of Str. 42-1st and the building of Str. 44 itself (Miller footnote).

eroded and unidentifiable sherds recovered during the course of the extensive surface clearing operations in and around the Structure 44 Complex.

Both anthropomorphic and zoomorphic censer forms were represented, the latter via a gray-to-buff paste variant common across the northern coastal plain and down the east coast of the peninsula, the former via a red paste variant more characteristic of the circum-Laguna Cilvituk region of southwestern Campeche as well. One intact miniature specimen was in the form of a sea turtle (Fig. 6).

It is difficult to assess the time of replacement of the Coba-oriented ceramic continuum by the Tulum-oriented one. Sanders (1960: 169) long ago pointed out that the final complex of ceramics at Tancah appears intrusive—presumably from Tulum—and in this I concur. As to the dating of this intrusion, I can offer little more than speculation. It would seem unlikely that Tulum could effectively bring Tancah under its control so long as the latter remained under the aegis of Coba—but until how late did that center survive as a major power?

Ceramics associated with the initial occupation of the Tulum locality include Tulum Plain Ware, Tulum Red Ware, Peto Cream Ware, and Chichen Slate Ware (Barrera Rubio 1977: 57–58). R. E. Smith (1971: 30) has dated the initial appearance of Tulum Red Ware at *ca.* A.D. 1300. I suspect it to be somewhat earlier in its zone of origin than at Mayapan, and also believe that it manifests such similarities in surface finish and decorative motifs to Chichen Red Ware as to suggest a developmental relationship between the two, with the former replacing the latter during the early thirteenth century. A thirteenth century date for the establishment of Tulum also is suggested by the minor occurrence of Chichen Slate Ware which probably did not persist beyond A.D. 1200±50. The presence of Peto Cream Ware is suggestive in that Smith (1971: 26) believes it to persist only until about A.D. 1300, although I suspect continuance as late as 1400 to be a distinct possibility. Equally informative is the apparent absence of *Chen Mul Modeled*-like effigy censers. Smith (1971: 24) assigns these to the Mayapan Tases complex which he dates to *ca.* A.D. 1300–1450, but which, on ethnohistoric grounds, I would limit to A.D. 1400–1450. It is possible, even probable, that such censers are earlier at Tulum than at Mayapan, but this would still suggest a pre-introduction (*ca.* A.D. 1350±50) dating for establishment of the east coast center. In sum, on the basis of ceramics I would set the foundation of Tulum at about A.D. 1250±25.

External lines of contact, interaction, and orientation for Tulum are suggested by a number of architectonic and artistic features as discussed by Miller (see Chapter IV) and additionally illuminated by its pottery. Fine Orange Paste-Ware types of the Matillas group constitute the principal imports and point to some measure of interaction with the southern Campeche-Tabasco coastal plain. Derivation of the specific local manifestation of the widespread Late Post-Classic effigy censer cult is more difficult to assess, but a southwestern Campeche-Tabasco origin is not unlikely. I have already touched on the question concerning the time of inception of this cult at Tulum, and will merely repeat my belief that ceramic evidence indicates it took place sometime between A.D. 1300 and 1400.

The reoccupation of Tancah from Tulum took place after the full development of the ceramic situation discussed above. It would seem unlikely that this could have taken place prior to at least A.D. 1300, and I am inclined to place the event still slightly later. An estimate of *ca.* A.D. 1400±50 seems reasonable.

The final ceramic occupation of Tancah was associated with a series of minor architectural repairs, alterations, and additions. Among others, these included the reflooring, wall-plastering, and repainting of Structure 44 as discussed by Miller (Chapter IV). Just when this took place is not educible from the ceramic collections and must be determined by reference to the added paintings. Similarly, discussion concerning the length of the final Tancah occupation must derive primarily from documentary, architectural, and mural data sources, although the recovery of several Spanish olive jar fragments and a notched sherd of green majolica from the on- and off-terrace refuse of the Structure 44 Complex indicates its continued use into the Colonial Period.[5]

[5] I did not see evidence from Tancah to suggest any persistence of the Tulum horizon ceramic industry into Post-Conquest times. While the structural fill beneath the Spanish chapel does include a few sherds of Tulum Red Ware, these are small and heavily eroded suggesting passage of an interval of time between discard and structural inclusion. Noteworthy also in this respect is their admixture with large quantities of Early Classic ceramic refuse. It appears that the chapel foundation fill is comprised of available older rather than freshly accumulated rubbish.

TABLE 1: SHERD TABULATIONS (non-contextual)

Classification	*Frequency*	*Percentage*[1]
Eroded and unclassified	4,642	61.6
Spanish Olive Jar Ware	5	trace
Tulum Red Ware	168	2.2/5.9
Fine Orange Paste-Ware		
Matillas group (includes 1 mold-impressed)	12	0.2/0.4
Altar/Silho group	8	trace
Mayapan Red Ware		
Mama Red: Mama Variety	1	trace
Papacal Incised: Papacal Variety	2	trace
Peto Cream Ware		
Xcanchakan Black-on-cream: Xcanchakan Variety	315	4.2/11
Xcanchakan Black-on-cream: Sharp-incised Variety	2	trace
Mayapan Unslipped Ware		
Chen Mul Modeled: Varieties Unspecified	27	0.4/0.9
Cehac-Hunacti Composite: Variety Unspecified	29	0.4/1
Puuc Unslipped Ware		
Tepakan Composite: Tepakan Variety	17	0.2/0.6
Other unslipped wares		
Vista Alegre Striated: Varieties Unspecified	186	2.5/6.5
Cetelac Fibre-temper: Cetelac Variety	5	trace
Middle Classic unslipped-striated/plain	291	3.9/10.2
Chancenote Striated: Varieties Unspecified	565	7.5/19.8
Other unslipped-striated sherds	77	1/2.7
Other unslipped-plain sherds	91	1.2/3.2
Puuc Slate Ware		
Muna Slate: Muna Variety	356	4.7/12.4
Chumayel Red-on-slate: Chumayel Variety	97	1.3/3.4
Sacalum Black-on-slate: Sacalum Variety	6	trace
Thin Slate Ware		
Ticul Thin-slate: Ticul Variety	221	2.9/7.7
Xul Incised: Xul Variety	2	trace
Tabi Gouged-Incised: Tabi Variety	3	trace
Other slipped monochrome wares		
Corona Red: Corona Variety	1	trace
Unspecified reddish brown glossware	54	0.7/1.9
Other slipped polychrome and dichrome wares		
Sayan Red-on-cream: Variety Unspecified	2	trace
Petkanche Orange Polychrome: Petkanche Variety	24	0.3/0.85
Saxche Orange Polychrome: Varieties Unspecified	19	0.2/0.7
Saxche Orange Polychrome: Dzaptun Variety	1	trace
Tituc Orange Polychrome: Camichin Variety	89	1.2/3
Tituc Orange Polychrome: Tituc Variety	6	trace
Undesignated Black-on-yellowish buff	2	trace
Mudanza Trickle-on-vitreous buff: Mudanza Variety	3	trace
Dos Arroyos Orange Polychrome: Variety Unspecified	26	0.3/0.9
Caldero Buff Polychrome: Variety Unspecified	5	trace
Shangurro Red-on-orange: Shangurro Variety	4	trace
Paso Caballo Waxy Ware		
Sierra Red: Sierra Variety	26	0.3/0.9
Polvero Black: Polvero Variety	4	trace
Repasto Black-on-red: Repasto Variety	1	trace
Escobal Red-on-buff: Escobal Variety	2	trace
Sarteneja Usulutan: Sarteneja Variety	1	trace
Laguna Verde Incised: Laguna Verde Variety	2	trace
Cienaga sphere slipped wares		
Monochrome Red	61	0.8/2
Monochrome Cream	9	trace
Monochrome Variegated	36	0.5/1.2
Dichrome Red-on-cream	17	0.2/0.6
Incised Red	2	trace
Incised dichrome (red-on-cream)	11	0.1/0.4

[1]The first figure given refers to the total number of sherds recovered (7,536); the second to the recognizable 2,894 sherds only.

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APPENDIX II

The Human Skeletal Remains from Tancah, Mexico

Frank P. Saul

INTRODUCTION

THE ARCHAEOLOGIC BACKGROUND for the Tancah skeletal remains is presented in the main body of this report. I shall confine myself to describing and discussing the skeletal material in terms of what it can tell us about the life history of the individuals who once occupied these bones ("osteobiographic analysis" [Saul 1976: 373]). The Tancah materials consist of about seventeen individuals recovered during the excavation of Structure 42 and about twenty-seven others recovered during the excavation of Structure 71 (the chapel). The individuals associated with Structure 42 are earliest in time, with two assigned to the Early Classic (Tzakol), six to the Middle Classic, one to the Late Classic (Tepeu 3), and eight to the Terminal or Post-Classic times. The population of Structure 71 (presumed on archaeologic grounds to be descended from the earlier inhabitants of Tancah) is especially noteworthy because it consists of individuals who apparently died within a relatively brief period of time, *ca.* 1543–1668 A.D. (shortly after the Spanish conquest) and who were then buried within a Christian context.

The Tancah series is therefore presently unique in terms of the time it spans and as such offers an unusual series of challenges and opportunities as follows:

1. What can the earlier remains (Structure 42) tell us about the origins and the way of life of the ancient Maya and especially about their health as it might relate to the collapse of ancient Maya civilization?
2. What can the latter remains from Structure 71 (the chapel) tell us about the Maya at the time of contact with the Europeans? Were these people Maya, or Spanish, or a mixture? How does the information recorded in the bones compare with the comments on physical characteristics (including health) recorded by contemporary Spanish authors such as Landa? How do they compare with the present day Maya?

In an attempt to answer these and other questions I have recorded a variety of data on sex, age, population affinity, pathology, etc. using techniques and approaches that I have described elsewhere (Saul 1972: 1–123).

POPULATION COMPOSITION (AGE AND SEX)

As can be seen in Table I, both sub-adults and adults and both males and females were associated with both Structure 42 and Structure 71. The seeming absence of older adults in both groups may be due to my inability to determine a specific category of adulthood for fifteen out of twenty-eight adults owing to the large number of fragmentary burials, whereas I would consider the large number of late adolescents (15–19 years) found in Structure 71 to be worthy of further consideration (7 out of 27 burials). This age distribution, plus the fact that all appeared to have perished within a brief time span soon after contact with the Spanish, is consistent with what is known of the effects of infectious disease on "virgin soil populations" (Cockburn 1963: 85). The Spanish brought smallpox, measles, and typhus, causing waves of epidemics that swept through the Indian population, killing people of all ages and in great numbers, as all were lacking immunity (Stewart 1973: 36).

The seeming scarcity of females (only 2 out of 11 adults and late adolescents) associated with Structure 42 may also be meaningful since I could not determine sex in only one adult, whereas the figures for Structure 71 (only 2 females out of 25 adults and late adolescents) may once more have been skewed by my inability to make determinations in so many fragmentary burials (10 out of 25 adults and late adolescents). Note that sex determinations were attempted only on late adolescents and older individuals inasmuch as sexual dimorphism does not begin to become marked in the skeleton until after puberty.

BODY BUILD AND STATURE

Body build in this context is derived from my impression of the degree of robusticity (massiveness) or gracility (lightness) as suggested by proportions and muscle attachment markings. The remains associated with Structure 42 include two robust males and one gracile female. An additional male (Burial 7a) is so abnormally massive in regard to the proportions of his mandible (and the long bones that

are probably associated with the mandible) that he is considered separately under the heading of Health Status (Pathology). Of the male remains associated with Structure 71, one is classified as very robust, three as robust, two as fairly robust, and one as gracile. All other remains were too fragmentary to be classified. The right femur of Burial 14 (Structure 71) was complete and measured 408 millimeters maximum length. The femora of three other individuals were incomplete but sufficiently present so that I felt comfortable making estimates based on comparison with Burial 14. The resultant femoral lengths and estimates using Genoves (1967: 67–77) formulae for Mexican males are as follows:

Structure 42-3rd, Burial 4a stature = approximately 156 cm (femur estimated to be at least 408 mm).
Structure 71, Burial 11a stature = approximately 159.5 cm (femur estimated to be at least 423 mm).
Structure 71, Burial 14 stature = approximately 156 cm (femur measured 408 mm).
Structure 71, Burial 15 stature = approximately 159.5 cm to 160.5 cm (femur estimated to be at least 423–428 mm).

These statural estimates are well within the range (156–162.5 cm, mean 160.1 cm) for the Classic and Post-Classic Maya at Altar de Sacrificios (Saul 1972: 108) and for the modern Maya from the Yucatan (145–165 cm, mean 155.1 cm; Steggerda 1932: 11) whereas modern Spaniards tend to be taller (means only given for three "general" Spanish studies range from 162–164.5 cm, in Williams 1931: 50). They are, however, considerably below the range for the Pre-Classic Maya at Altar de Sacrificios (163.5–173.0 cm, mean 166.6 cm) who were taller than the later Maya, as well as the modern Spaniards cited above. This secular decrease at Altar seems to be related to both ontogenetic and phylogenetic adaptation to malnutrition (Saul 1972: 28–31).

It is of interest to note Landa's description of the Maya at the time of contact: "The Indians of Yucatan are a race of pleasing appearance and of tall stature, robust and very strong . . ." (Tozzer 1941: 87). While the remains of both groups provide some support for Landa's observations on robusticity and perhaps strength, they provide no support for his comments on stature.

HEALTH STATUS (PATHOLOGY)

Periodontoclasia or Pyorrhea (Fig. 11) This condition, involving the breakdown of the alveolus (tooth sockets and associated structures) has several causes ranging from inadequate dental hygiene to lack of ascorbic acid or vitamin C (Saul 1972: 56–66). It is quite common among the Maya (past and present) and was found in four individuals (pronounced degree) from Structure 42 whereas the Structure 71 group included seven individuals with less marked conditions (four medium and two slight degree). (See *Other Dental Problems*, below.)

Dental Caries Indications of dental decay were found in three individuals from Structure 42 and five from Structure 71. There were no caries in Burials 1a and 1b. (See *Other Dental Problems*, below.)

Spongy or Porotic Hyperostosis (Figs. 6, 13, 14, 16) This lesion, involving the thickening and reorientation of the diploe or location of blood cell formation in the skull accompanied by development of porosities in the outer table is probably related to the requirements of anemia—most likely involving iron deficiency anemia among the Maya. In the case of the Maya, the iron deficiency could be caused by any or a combination of causes including iron absorption problems related to their maize (high carbohydrate–low protein) diet, interaction with scurvy (extreme vitamin C deficiency), ceremonial blood-letting, blood loss due to intestinal parasitism, iron deficient soils, and increased iron requirements in the tropics (Saul 1972: 38–42; 1977: 10–15). This lesion seems to be quite common and often severe in other Maya populations; therefore, the Structure 71 group's seemingly low incidence and small number of severe conditions (seven slight, one medium, one pronounced, and two absent) may be significant, and perhaps associated with Tancah's coastal location and access to marine protein and/or decreased ceremonial blood-letting. (The absence of information regarding the conditions in the Structure 42 remains is due to the absence of cranial materials.)

Linear Dental Enamel Hypoplasia Growth arrest lines recorded in the teeth may be caused by a variety of insults ranging from fevers associated with infectious disease to malnutrition (and infectious disease may be precipitated by protein deficiency). While a specific cause is hard to pin point in a specific case, the number and severity of the lines provide some indication of childhood disease patterns in individuals, and their location in specific teeth gives some indications of timing (Saul 1972: 66–68). Again lack of materials prevents us from evaluating Structure 42 (except for two individuals, Burials 1a and 1b, who were apparently free of growth arrests) but Structure 71 yielded two slight, seven medium, and one pronounced degree as well as one free from growth arrests. (All individuals with growth arrests showed multiple episodes.) Most of the lesions are located in such a way as to indicate that the arrests probably occurred at about 3–4 years of age. This is the location for most other Maya I have examined and is significant because Landa remarked on the fact that the Maya at the time of contact were late weaners: "They kept them at the breast for a long time, since they never stopped giving them milk if they could, though the children were three to four years old . . ." (Tozzer 1941: 125).

Fused Cervical Vertebrae or Klippel-Feil Deformity Syndrome (Figs. 17–19) Two individuals found in Structure 71 have the fused second and third cervical vertebrae that are indicative of Klippel-Feil Deformity Syndrome. Burial 28 is a young adult female and the other (Burial 24) is a 15–18 year old whose sex could not be determined and whose vertebrae were smaller and less completely fused.

Klippel-Feil Deformity is a rare congenital malformation whose mode of inheritance may involve both autosomal dominant and recessive genes. The occurrence of these two cases in such a small population suggests a familial relationship between the two individuals. Klippel-Feil Deformity is frequently referred to as a syndrome because the fusion of two or more cervical vertebrae is often accompanied by hearing deficiency and other anomalies of the head, heart, lung, and shoulder. No evidence of other problems was apparent in these fragmentary remains, but in life these individuals did at the very least appear short necked and were restricted (probably painlessly) in cervical movement. (McKusick 1978: 66, 232–233).

Osteoarthritis Osteoarthritis or degenerative joint disease is definitely not present in three Structure 71 individuals whose remains were complete enough to be assessed (Burials 14, 15, and 17) and incipiently present in Structure 71 Burial 16 as a slight "lipping" of the thoracic vertebrae. Unfortunately, this seemingly low occurrence of a lesion that is common in many ancient and modern populations cannot be accepted at face value owing to the fragmentary nature of the sample.

Other Dental Problems The left upper canine of Burial 30 (Structure 71) shows severe hypercementosis of the root indicating an infection that *might* be related to cause of death (Fig. 12). Burial 14 (Structure 71) has lost both right and left lower first molars followed by compensatory shifts of adjacent and opposing teeth and alveolar resorption (Fig. 2). These losses may have been due to dental caries and/or periodontoclasia. In Structure 42-2nd, Burial 7e, the fragmentary right mandible contains an apparently impacted lower canine (crown is 8 mm below crown of the adjacent first premolar) (Fig. 20).

Abnormal? Robusticity (Fig. 11) Structure 42-2nd, Burial 7a contains an unusually massive mandible. The fact that it is essentially edentulous (pronounced degree of periodontoclasia) lends added significance to its massiveness as the loss of teeth generally hastens the loss of surrounding bony tissue. Burial 7 includes some fragmentary long bones that are also very massive and, therefore, likely to be associated with the mandible listed as Burial 7a. The fragmentary nature of the remains hampers accurate diagnosis of the condition but both Paget's disease (a disorder of uncertain origin) and acromegaly (an endocrine disorder) are possibilities.

CULTURAL MODIFICATIONS RECORDED IN THE SKELETON (CRANIAL SHAPING AND DENTAL DECORATION)

Cranial shaping is found in association with both structures as follows:

Structure 42: Five individuals (including two children 5–9 years) show indications of shaping, including one with a pronounced degree of tabular shaping of uncertain variety (Fig. 9). Two individuals were definitely not shaped. The others (15) were so fragmentary that determination could not be made.

Structure 71: Three individuals show indications of shaping, including one with a marked degree of shaping of uncertain variety (Figs. 6, 7, 14). Two individuals were definitely not shaped (Fig. 1). The others (22) were so fragmentary that determinations could not be made.

Dental decoration (Romero 1958: 1–326) is found in association with both structures as follows:

Structure 42-2nd: Burial 7 (miscellaneous collection) includes a left lower central incisor that shows filing of the Romero category C6 variety (Fig. 10).

Structure 71: Remains from Burial 20 include a left upper central incisor that bears filing resembling the Romero C5 category (Fig. 8). Three other individuals (Burial 12a, Burial 14, and the remains from Burial 18a) include incisors that may have been filed but cannot be categorized as such due to wear.

POPULATION AFFINITY

Structure 42 remains were accepted as aboriginal by virtue of their cultural and chronological context. The remains of Structure 71 were subjected to more intense examination inasmuch as they were post-contact and found within a structure with European elements.

Cranial shaping (Figs. 6, 7, 9, 14) and dental decoration (Figs. 8, 10) are two Maya cultural traits that together with marked "shoveling" of the incisor teeth (Fig. 4) (a genetic trait that has a high frequency in Amerindians and a low frequency in Europeans [Carbonell 1963: 214]) are strongly suggestive of Maya affinity. Additional supportive or suggestive information was provided by stature estimates (the Maya tend to be short), the presence of cranial intrasutural bones (Fig. 14) and dental enamelomas (Fig. 5) (both variations are more common in Amerindians), the presence of linear dental enamel hypoplasia (growth arrest lines in the teeth that are present in most ancient Maya and the location of which suggests that they are associated with weaning at 3–4 years of age), and a substantial dental attrition or wear (more common among the Maya owing to unintentional eating of the grit derived from the grinding stones used in preparing maize) (Fig. 3).

Seven individuals showed one or more of the three traits (cranial shaping, dental decoration, shovel-shaped incisors) that I consider to be strong indicators of Maya affinity (Burials 11a, 12a, 13, 14, 17, 18a, and 20). Most of these also manifested one or more of the other traits that I believe to be further suggestive or supportive of Maya affinity. Of the seven, Burial 14 (Figs. 1–5) is especially interesting since the traits that indicate and support his Maya affinity (shovel-shaped incisors, short stature, a dental enameloma, linear dental enamel hypoplasia, and moderate to marked dental attrition) are accompanied by a cranium that is not only shaped but has a cranial index (79.0) that is low for Maya (ancient Altar range 82.2–91.5 [Saul

1972: 112], modern mean 85.2 [Williams 1931: 105]) but similar to the cephalic index means for three modern Spanish series (77.7–79.1 cm as listed in Williams [1931: 105]). In addition, he lacks the alveolar prognathism and receding chin that I have come to associate with so many ancient and modern Maya profiles. He is apparently a composite or hybrid of Maya and European physical characteristics, thus lending special significance to his burial within a Christian context (as discussed elsewhere in this report). Others buried within Structure 71 may also represent the original Maya themselves or the products of early matings between the Maya and the Spanish. Unfortunately their remains are so incomplete that I hesitate to do more than list probable Maya affinity for the previously mentioned burials while ignoring further ramifications, except for stating that there are no remains that could be classified as non-Maya.

IN RETROSPECT

It should be obvious by now that the fragmentary nature of most of these skeletal remains has severely limited the opportunities presented by their chronologic and cultural context. Nevertheless, useful information has been provided for archaeologic interpretations (especially in regard to the Maya affinities of certain of the burials of Structure 71), and we now have some knowledge of the health status of the early post-contact Maya as recorded in their skeletons. In the latter instance they would appear to have had fewer and less severe indications of malnutrition and related disorders than have been present in the previously studied interior (Pre-Columbian) populations (Saul 1972: 68–73; 1977: 12). (This, of course, may be associated with their access to marine protein and/or decreased ceremonial blood-letting.) However, the presence of two cases of a rare genetic defect of the skeleton (Klippel-Feil Deformity/Syndrome) in the Structure 71 group provides evidence of the negative consequences of possible inbreeding among the ancient Maya. Unfortunately, inasmuch as many, if not most, such disorders do not leave scars upon the skeleton, their full effect upon Maya health must remain speculative.

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ABBREVIATIONS USED IN TABLES

M	Male
F	Female
A	Adult
YA	Young Adult
MA	Middle Adult
Y–MA	Young to Middle Adult
0	Absent or not present (Body Build = gracile)
+	Slight degree of presence (caries = present)
++	Medium degree of presence
+++	Pronounced degree of presence
++++	Very pronounced degree of presence
m	Multiple episodes
blank space	Could not be evaluated
?	Some degree of uncertainty about evaluation

TABLE I: POPULATION COMPOSITION

	Subadults					Adults				
Age	*B–4*	*5–9*	*10–14*	*15–19*	*All*	*YA*	*Y–MA*	*MA*	*A*	*All*
Str. 42	4	2	0	1	7	3	1	0	6	10
Str. 71	1	1	0	7	9	6	1	2	9	18
All Tancah	5	3	0	8	16	9	2	2	15	28

	Subadults				Adults			
Sex	*M*	*F*	*?*	*All*	*M*	*F*	*?*	*All*
Str. 42	1	0	6	7	7	2	1	10
Str. 71	1	1	7	9	11	2	5	18
All Tancah	2	1	13	16	18	4	6	28

TABLE II: INDIVIDUAL CHARACTERISTICS, STRUCTURE 42 BURIALS

Burial No.	*Sex*	*Age***	*Cranial Shaping*	*Dental Deco-ration*	*Body Build (Robus-ticity)*	*Stature (cm)*	*Periodon-toclasia*	*Caries*	*Porotic/ Spongy Hyper-ostosis Cranii*	*Linear Enamel Hypo-plasia*	*Other*
1a	M?	A		0	++			0		0	
1b	F?	A		0	0			0		0	
3a		5–9	+?					+			
3b		5–9	+?								
4a	M	15–19	+++			156					cranial shaping is tabular, uncertain variety
4b	M	YA	+?								
6	M	Y–MA									
7a	M?	A			++++		+++				abnormally (?) massive mandible
7b	M?	A					+++				
7c	F?	A					+++				
7d	M?	A					+++		+		
7e		YA							+		right lower canine either impacted or erupting
7f		4–5									
7g		4–5									
*7 misc.**				C6							decorated tooth is left lower central incisor
8		–2½									
9		–5									
10	M	YA	+		++						

*7 miscellaneous includes 2 frontal bones of adult males (no indication of shaping on one, and no definite indication of shaping on the other) and miscellaneous teeth (some show little wear, others much wear). Teeth include decorated tooth, shown in table above. These remains cannot be assigned to any of specific mandibles 7a–g owing to their fragmentary nature.

**age in years, unless otherwise indicated.

TABLE III: INDIVIDUAL CHARACTERISTICS, STRUCTURE 71 BURIALS

Burial No.	*Sex*	*Age**	*Cranial Shaping*	*Dental Deco-ration*	*Body Build (Robus-ticity)*	*Stature (cm)*	*Peri-odon-toclasia*	*Caries*	*Porotic/ Spongy Hyper-ostosis Cranii*	*Linear Enamel Hypo-plasia*	*Other*	*Popu-lation Affinity*
11a	M	A	+		++	159.5			+		"inca" and other intra–sutural bones	Maya?
11b		A							+	++m	hypercementosis	
12a	M	YA	0				++	+	+	++m	copper stain	Maya?
12b		A					++	+				
13	M	YA	+++								cranial shaping is tabular, uncertain variety	Maya?
14	M	YA	0		++	156.0	++	+	0	++m	no osteoarthritis	Maya?
15	M	A			++	159.5–160.5					no osteoarthritis	
16	M	MA			+++						slight osteoarthritis	
17	M	Y–MA	+		+		++	+	+	++m	no osteoarthritis	Maya?
18a		A								+++m		Maya
18b	M	A										
19	M?	YA								+m		
20		–18		C5					+++	++m	decorated tooth is left upper central incisor	Maya
21a		9 mos–3 yrs 5 mos										
21b		7–9							++	++m		
22	F	A									at least one pregnancy**	
23	M	A			+							
24		15–18								+m	fused cervical vertebrae 2–3	
25		15–19										
26		–18										
27	M	–18	0				+			0?		
28	F	YA						+	0		fused cervical vertebrae 2–3	
29	M	MA			0		+		+	++m		
30		YA										
31	F	–18							+			
32		–18										
33		A										

* age in years, unless otherwise indicated.
** based on well-defined preauricular sulcus.

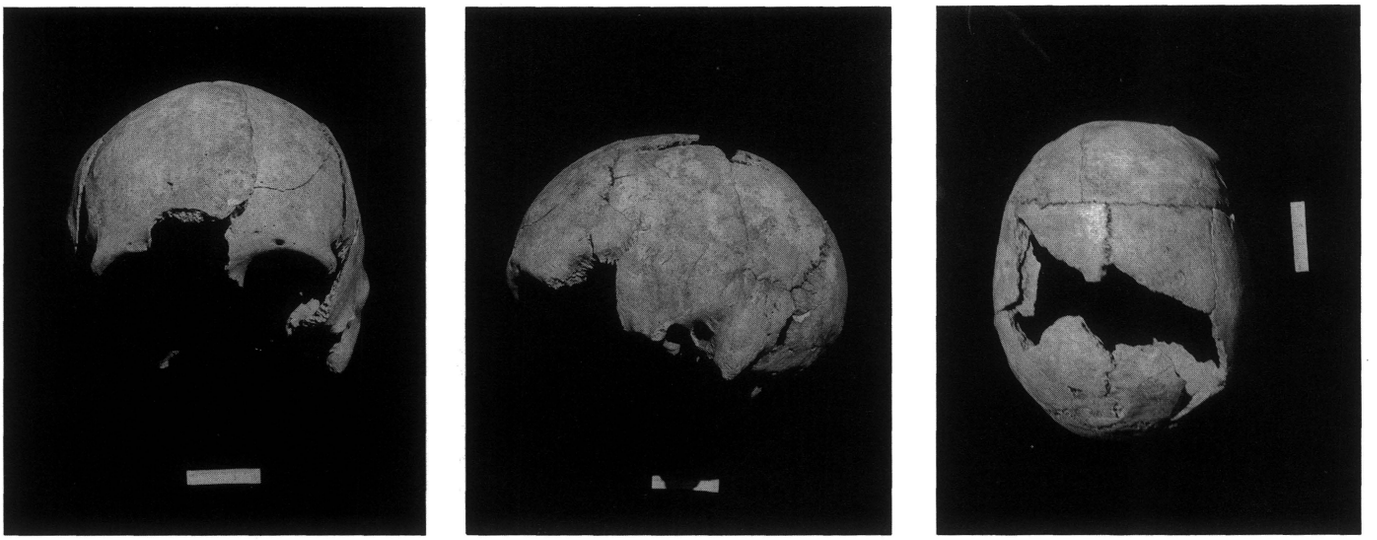

Fig. 1 Burial 14, Str. 71, male, young adult. Front, side, and top views of cranial vault. No apparent shaping, cranial index 79.0 (mesocranic, bordering on brachycranic).

Fig. 2 Burial 14, Str. 71, continued. Side view of mandible showing prominent chin and lack of alveolar prognathism that are suggestive of European ancestry. Also shows loss of left first molar followed by alveolar resorption and compensatory movement of adjacent second premolar and second molar.

Fig. 3 Burial 14, Str. 71, continued. External view of right maxilla and left central incisor (alongside) showing marked dental attrition that is suggestive of Maya style usage or perhaps even shaping.

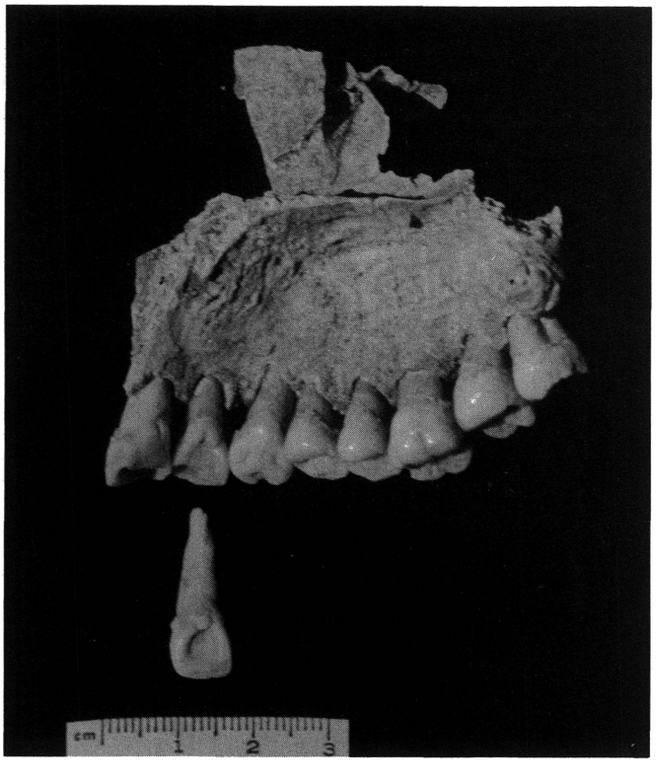

Fig. 4 Burial 14, Str. 71, continued. Internal view of right maxilla and left lateral incisor (below) showing very marked shoveling of incisors that is suggestive of Maya ancestry.

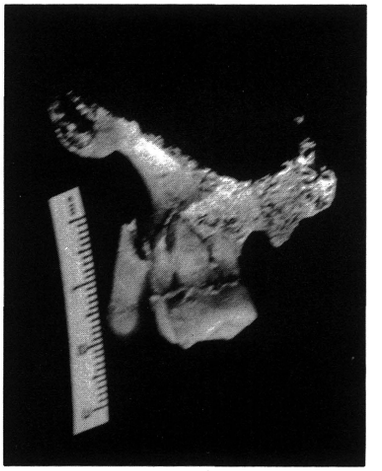

Fig. 5 Burial 14, Str. 71, continued. Rear view of a fragment of the left maxilla showing a small enameloma between the distal roots of the first molar that is suggestive of Maya ancestry.

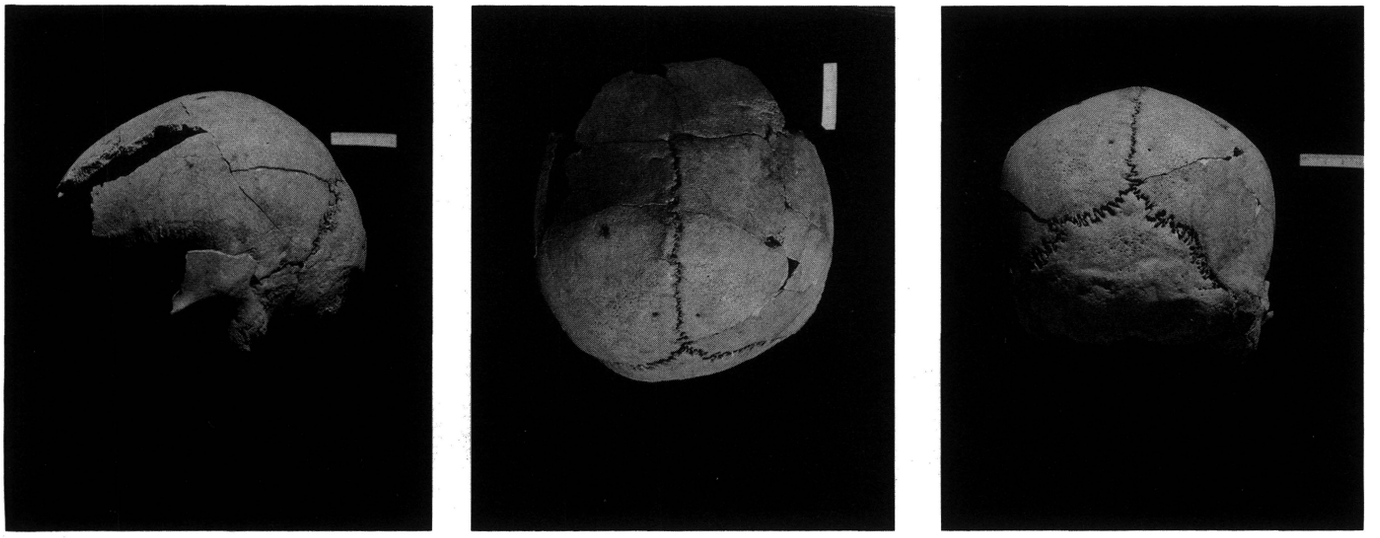

Fig. 6 Burial 17, Str. 71, male, young-middle adult. Side and top views of cranial vault showing medium degree (++) of shaping of lambdoid and occipital region that is suggestive of Maya cultural influences. Rear view shows a slight degree (+) of porotic and cribriotic lesions (especially in supra-inion region) that are suggestive of anemia-induced porotic or spongy hyperostosis.

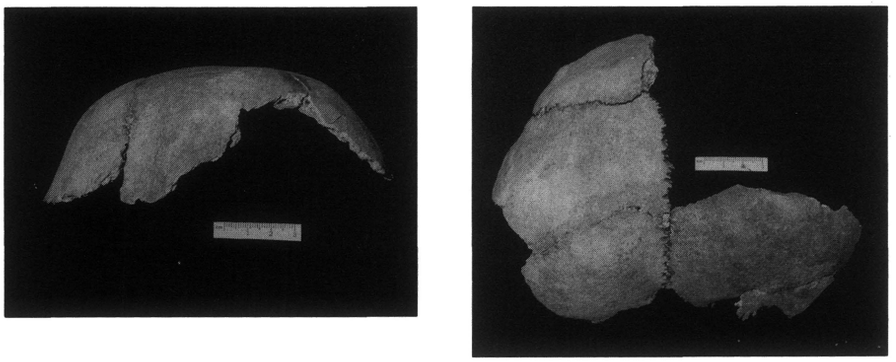

Fig 7 Burial 13, Str. 71, male, young adult. Side and top views of fragmentary cranial vault showing pronounced degree (+++) of shaping of tabular category, variety uncertain, that is indicative of Maya cultural influence. Cranial index could not be calculated but probably hyperbrachycranic.

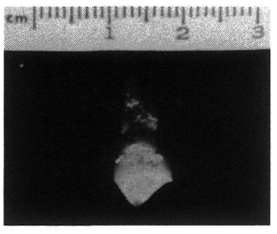

Fig. 8 Burial 20, Str. 71, sex ?, late adolescent (–18 years). Front view of a left upper central incisor showing filing similar to Romero C5 category.

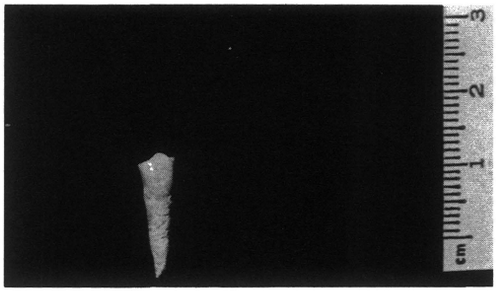

Fig. 10 Burial 7, Str. 42, (miscellaneous), sex ?, adult. Front view of a left lower central incisor showing filing similar to Romero C6 category.

Fig 9 Burial 4a, Str. 42, male, late adolescent (–21 years) and 4b, male, young adult. Fragmentary frontal and parietal bones of 4a (to the right) showing pronounced degree (+++) of shaping of tabular category, variety uncertain, that is indicative of Maya cultural influence and 4b (to the left) showing a probable shaping of the frontal bone that is suggestive of Maya cultural influence.

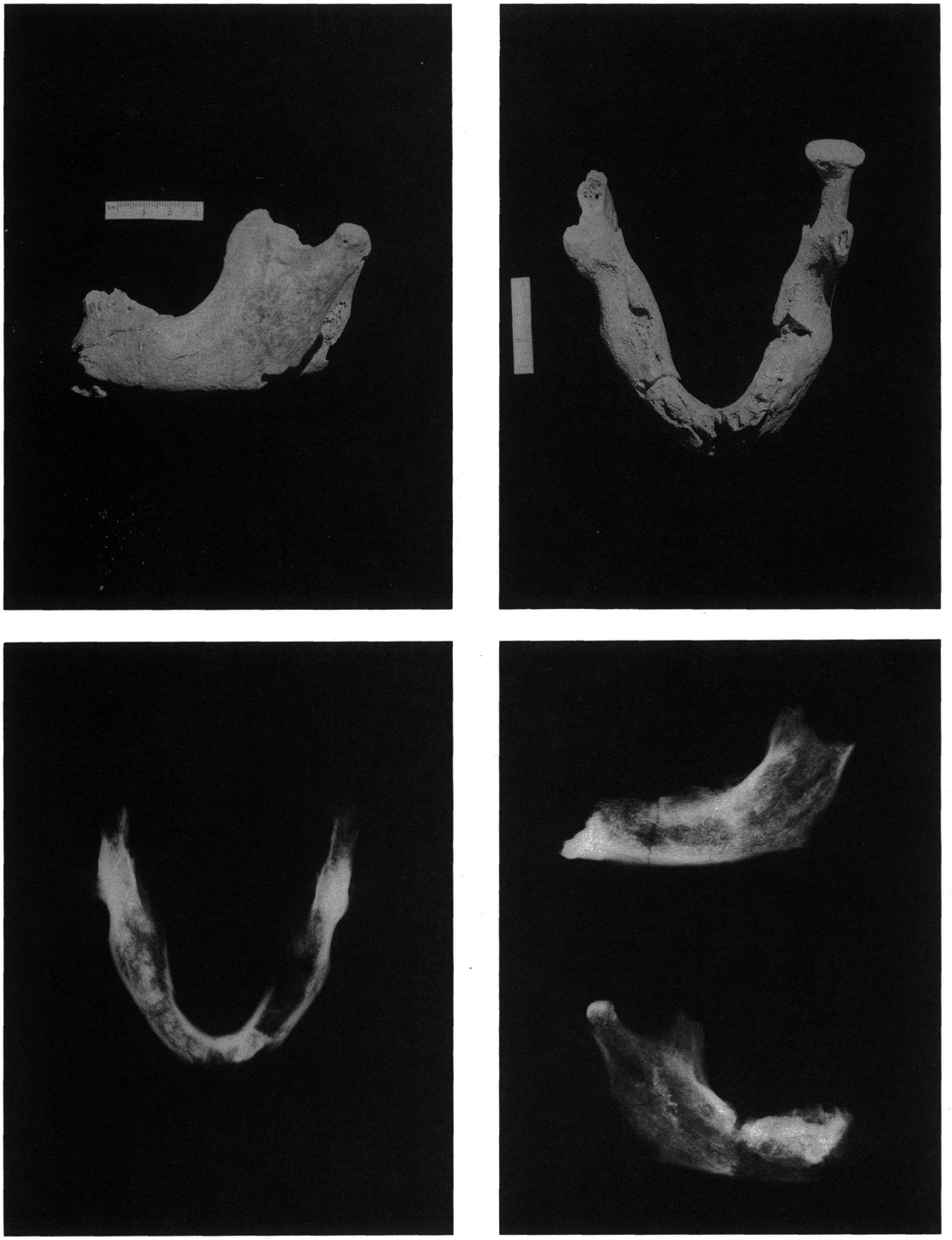

Fig. 11 Burial 7a, Str. 42, male, adult. Side view, view from above, and radiograms of an unusually massive mandible that also shows a pronounced degree (+++) of periodontoclasia. Both Paget's disease (a disorder of uncertain origin) and acromegaly (an endocrine disorder) have been suggested as a possible basis for the mandible's unusual thickness.

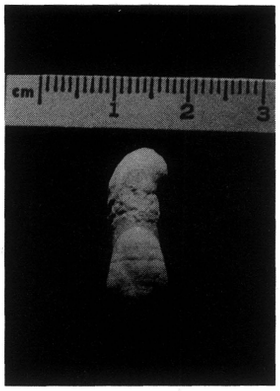

Fig. 12 Burial 11b, Str. 71, sex ?, adult. Front view of a left upper canine showing severe root hypercementosis indicative of infection.

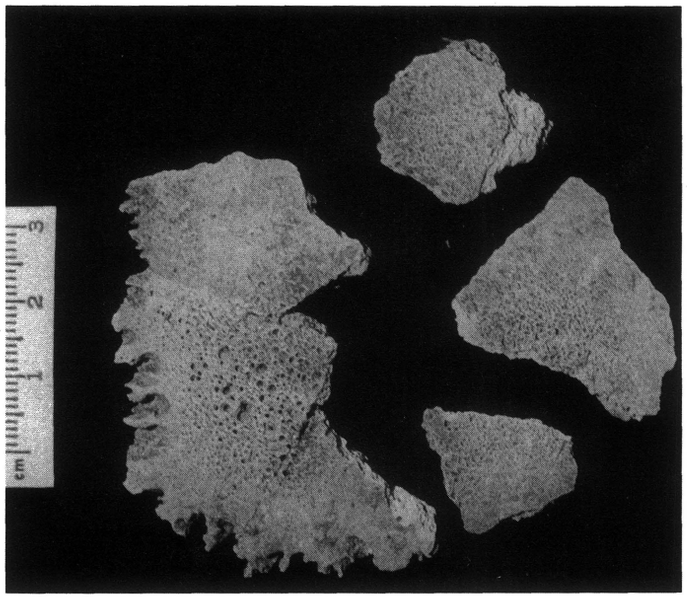

Fig. 13 Burial 20, Str. 71, sex ?, late adolescent (–18 years). Fragments of cranial bones showing a pronounced degree (+++) of trabecular lesions that are suggestive of anemia induced porotic or spongy hyperostosis.

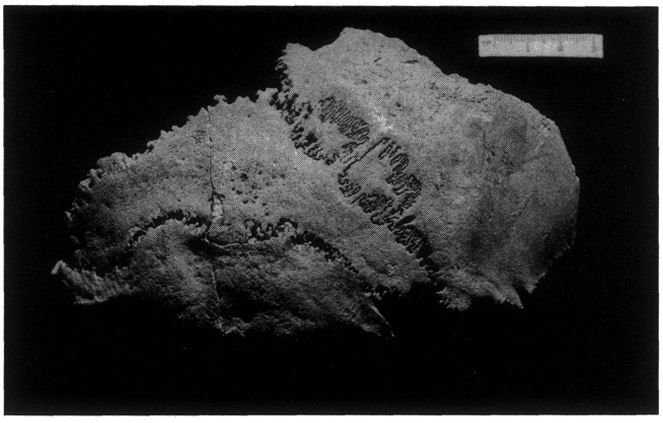

Fig. 14 Burial 11a, Str. 71, male, adult. Rear view of shaped fragmentary occipital bone with "inca bone" and two intrasutural bones between it and the adjacent fragment of right parietal bone. These variations may be associated with shaping procedures. Cribriotic lesions (slight degree [+]) suggestive of anemia-induced spongy or porotic hyperostosis are also apparent.

Fig. 15 Burial 22, Str. 71, female, adult. Fragment of right hip bone, ilium region showing a well-defined preauricular sulcus whose "gouged-out" appearance is believed to be associated with the stresses of the late stages of pregnancy.

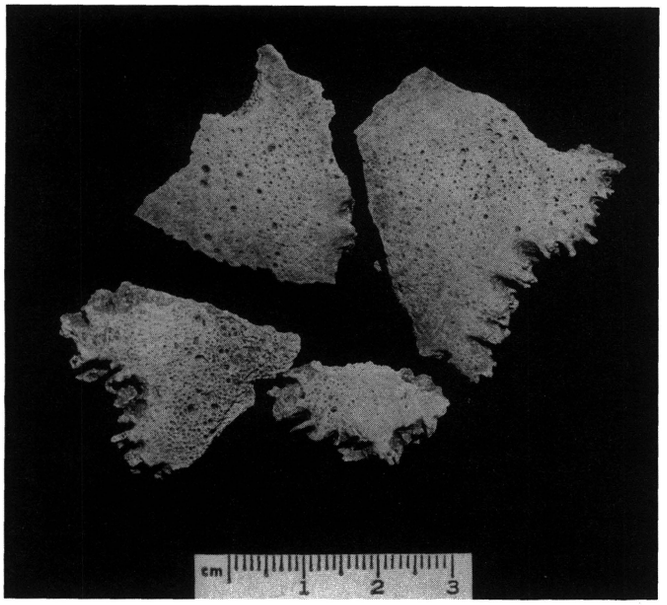

Fig. 16 Burial 21b, Str. 71, sex ?, 7–9 years. Fragments of cranial bones showing a medium degree (++) of cribriotic lesions that are suggestive of anemia-induced porotic or spongy hyperostosis.

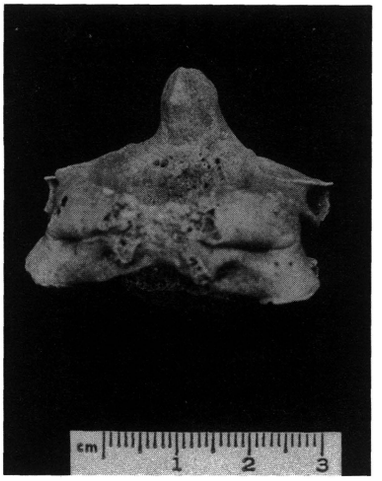

Fig. 17 Burial 24, Str. 71, sex ?, 15–18 years. Three-quarter rear view of fused second and third cervical vertebrae.

Fig. 18 Burial 28, Str. 71, female, young adult. Three-quarter rear view of fused second and third cervical vertebrae.

Fig. 19 Rear view of fused second and third vertebrae of Burial 28, Str. 71, (left) and Burial 24, Str. 71, (right). Note that vertebrae of Burial 24, the younger of the two, are smaller and less completely fused. These would appear to be examples of Klippel-Feil Syndrome, a rare congenital deformity whose mode of inheritance may involve both autosomal dominant and recessive genes.

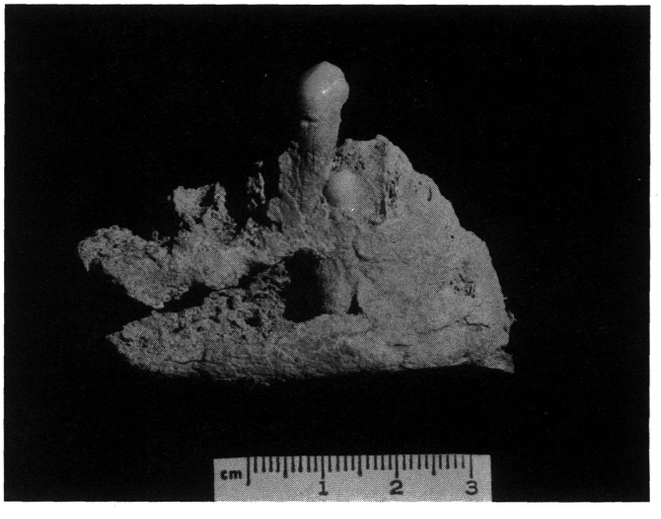

Fig. 20 Burial 7e, Str. 42, sex ?, young adult. Fragmentary right mandible showing apparently impacted canine whose crown is 8 mm below crown of adjacent first premolar.

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APPENDIX III

Archaeological Mollusca from Tancah, Quintana Roo: A Brief Report

Anthony P. Andrews

THIS REPORT IDENTIFIES and describes twenty-one molluscs and shell artifacts recovered from the 1974 excavations at Tancah, Quintana Roo. Seventeen of these were associated with burials, and the remaining four were recovered from stratigraphic levels. Nine are artifacts, representing beads, pendants and/or pectorals, and a possible bowl or ladle.

Despite the small size of the sample, it is worth recording for two reasons: 1) the collection has a well-established archaeological context, and 2) our knowledge of mollusca from archaeological contexts in the East Coast area is limited to the analysis of three collections: the remains from the Late Formative period midden on Isla Cancun (Andrews IV *et al.* 1974), a small sample from excavations at Late Post-Classic Tulum (Barrera Rubio 1977), and a collection from the excavations at the site of El Meco, dating from Early Classic to Late Post-Classic times (Andrews n.d.).

Nine species are represented in the Tancah collection, as follows:

GASTROPODS	*Whole*	*Frags.*	*Total*	*Artifacts*
Strombus gigas Linné	1	3	4	1
Pleuroploca gigantea (Kiener)	0	1	1	1
Cittarium pica (Linné)	0	2	2	0
Astrea tecta americana (Gmelin)	1	0	1	1
PELECYPODS				
Spondylus americanus Hermann	1	4	5	5
Pteria colymbus (Röding)	1	3	4	1
Glycymeris decussata (Linné)	1	0	1	0
Chama sinuosa Broderip	1	0	1	0
Anomia simplex d'Orbigny	0	2	2	0
Totals	6	15	21	9

The shells were identified with the aid of standard malacological guides (Abbott 1974; Warmke and Abbott 1961; Andrews IV 1969) and collections of modern Yucatecan molluscs. The classification of specimens into the "whole" or "fragment" categories follows the criteria set forth by Andrews IV (Andrews IV *et al.* 1974: 185). All of the species are native to the East Coast area, and it is thus unlikely that they were trade items. In fact, modern collections made in recent years in the vicinity of Tancah include all nine species.

DESCRIPTION OF THE MOLLUSCS

Burial 2 (Middle Classic)

Strombus gigas	Unworked fragment.
Chama sinuosa	Whole shell, unworked.
Astrea tecta americana	Almost whole shell, bottom perforated; possible pendant.

Burial 3 (Middle Classic)

Spondylus americanus	Very small flat pink bead.
Pteria colymbus	Three unworked fragments.
Glycymeris decussata	Whole shell, unworked.
Anomia simplex	Two unworked fragments.

Burial 6 (Middle Classic)

Spondylus americanus	Very small flat orange bead.

Burial 7 (Terminal Classic/Early Post-Classic)

Strombus gigas	Almost whole shell, perforated above second spiral to extract animal for food.
Pleuroploca gigantea	Worked fragment of lower outer body whorl, with edges smoothed; possible bowl or ladle.
Spondylus americanus	Two fragments of a broken pendant, with four perforations.
Pteria colymbus	Whole shell, perforated in center; probable pendant.

Burial 8 (Late Classic)

Cittarium pica	Unworked fragment.

Operation 4, Level 5

Cittarium pica	Large fragment, probably broken to extract animal for food.
Strombus gigas	Unworked fragment.

Operation 9d, Level 1 (Late Post-Classic)

Strombus gigas	Round flat disk (4.5 cm in diameter, .5 cm thick), smoothed

	on edges and one side; may be an unfinished pendant or discoidal bead (it is unperforated).

Operation 32, Level 3 (Late Post-Classic)

Spondylus americanus	Whole shell (red), with two perforations; probable pendant or pectoral.

COMMENTS ON USAGE

a. *Edible molluscs.* *S. gigas*, *P. gigantea*, and *C. pica* are all well known for their culinary appeal among natives of the Yucatan coast; they are also quite commonly found in Pre-Hispanic coastal middens (Andrews IV 1969: 57–58; Andrews n.d.).

b. *Ornamental shell artifacts.* The Pre-Hispanic use of *Spondylus* species for manufacturing beads, pendants, pectorals, and other jewelry is well documented throughout Mesoamerica (Boekelman 1935; Kidder, Jennings, and Shook 1946: 145–152; Andrews IV 1969: 25–26, 55–56; Suárez Díez 1974, 1977). All of the *Spondylus* specimens from Tancah are worked ornaments. Both the *P. colymbus* and the *A. tecta americana* were perforated and were undoubtedly used as pendants. The *A. simplex* may have been put to similar use: several perforated *Anomia* have been reported at Mayapan (Proskouriakoff 1962: 386–387). The *S. gigas* round disk is an unusual piece, and its purpose is unclear; Proskouriakoff (1962: 382, fig. 42r) reports two similar, but smaller disks from Mayapan.

c. *Votive offerings.* Several unworked shells were associated with the burials, and given their non-artifact status, may represent votive offerings. These would include *A. simplex*, *G. decussata*, and *C. sinuosa*.

d. *Utilitarian item.* The one fragment of *Pleuroploca gigantea* appears to have been finished into a bowl or ladle, reminiscent of the *jicaras*, or gourds used by the modern Maya. A similar receptacle, fashioned from the outer body whorl of a *S. gigas*, was found in a Terminal Classic midden at El Meco (Andrews n.d.).

ADDITIONAL NOTE

In his report of the 1955 season at Tancah, William T. Sanders reported recovering several shells from his excavations (1960: 262, fig. 19b). Among these were three "small perforated disks with incised designs" and three other shells, which are illustrated in his photographs in fig. 19b. Artifact No. 14 is clearly a flange from a *Cassis* sp.; Sanders tentatively suggests it may have been an ornamental item. Artifacts Nos. 15 and 16 are small pierced tinklers of the genus *Oliva*, a very common jewelry item of ancient Maya times (Andrews IV 1969: 55).

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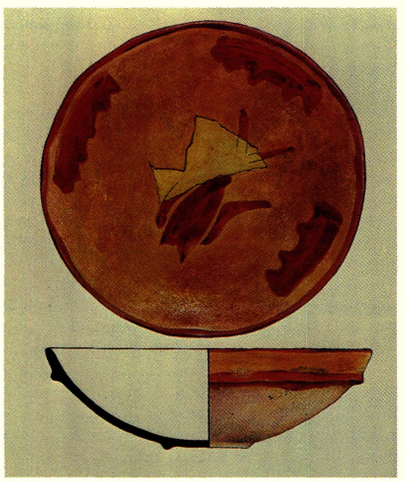
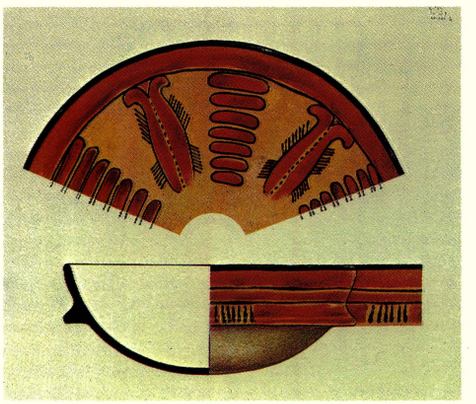
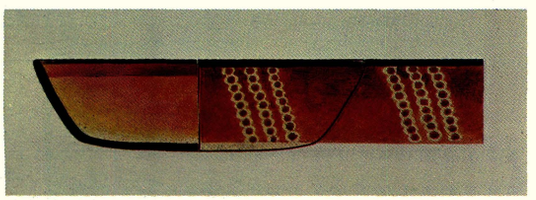
Pl. 1 Tulum, on the edge of the sea. Tancah is in the far background, to the north. Photo taken in January 1973.



Pl. 2 *Shangurro Red-on-orange*, medial flanged dish with rim base, Tancah Str. 42-3rd, Burial 1 (A.D. 150–300). Painting by F. Dávalos.



Pl. 3 *Tituc Orange Polychrome: Tituc Variety*, basal flanged bowl with rounded bottom, Tancah Str. 42-3rd, Burial 1 (A.D. 250–400). Painting by F. Dávalos.



Pl. 4 *Saxche Orange Polychrome: Resist Variety*, dish, Tancah Str. 42-3rd, Burial 2 (A.D. 550–650). Painting by F. Dávalos.

Pl. 5 Greenstone pendant, Tancah Burial 4, 54 × 44 × 16 mm. See also Fig. 32.

Pl. 6 Tancah Str. 12, rendering of Mural 1. Terminal Classic/Early Post-Classic style. 96 × 320 cm. See Fig. 83 for location. Painting by F. Dávalos.

Pl. 7 Tancah Str. 12, interior west wall, Mural 1, detail showing the looted section. Photo taken in 1973.

Pl. 8 Tancah Str. 44, Room 1, rendering of Mural 1, running or dancing figure wearing an iguana- or alligator-head costume. Figure measures 24 × 30 cm. See Fig. 88 for location. Painting by F. Dávalos.

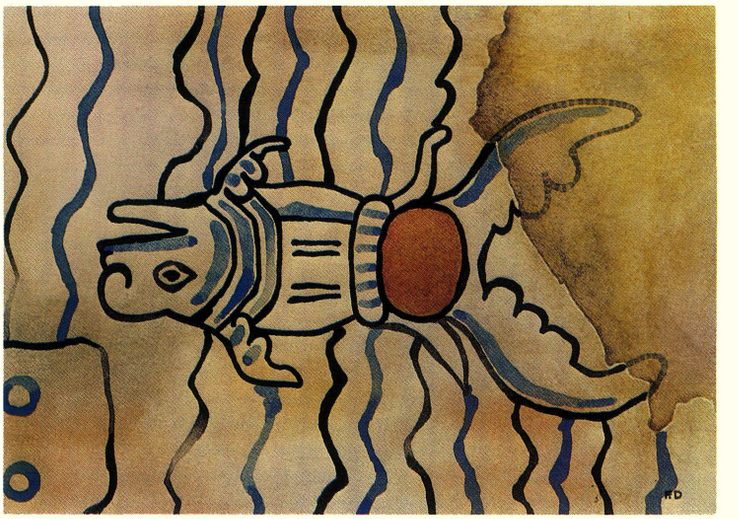
Pl. 9 Tancah Str. 44, Room 1, photo of Mural taken in 1973.

Pl. 10 Tancah Str. 44, Room 1, right of central door, Murals 2 and 3. See Fig. 88 for location. Photo taken in 1973.

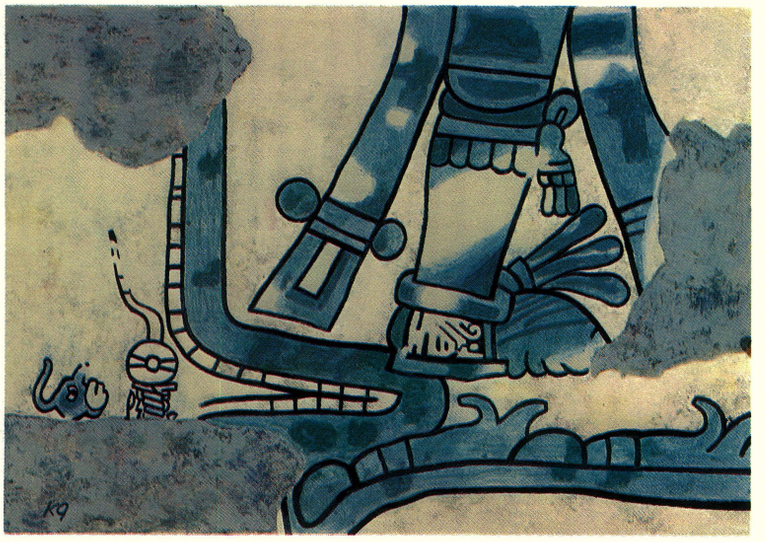
Pl. 11 Tancah Str. 44, Room 1, Mural 2, God E. Figure measures 30 × 17 cm. Painting by K. Grootenboer.

Pl. 12 Tancah Str. 44, Room 1, Mural 3, God C. Figure measures 17 × 20 cm. Painting by K. Grootenboer.

Pl. 13 Tulum Str. 1-Sub., Mural 1, an upside-down ring-tailed fish. Figure measures 11 × 25 cm. Photo taken in 1973.



Pl. 14 Tulum Str. 1-Sub., rendering of Mural 1. See Fig. 84 for location. Painting by F. Dávalos.



Pl. 15 Tulum Str. 1-Sub., Mural 3, a leg and a rubber offering, Terminal Classic/Late Post-Classic style. See Fig. 84 for location. Painting by K. Grootenboer.

Pl. 16 Tulum Str. 1-Sub. 1972 photo of Mural 3. Figure measures 129 × 78 cm.

Pl. 17 Tulum Str. 1-Sub., rendering of Mural 2 showing serpent head, *pom* offerings, and feather ornaments. The line copy of the serpent head appears to be a later addition. See Fig. 84 for approximate location. Painting by K. Grootenboer.

Pl. 18 Tulum Str. 1-Sub., 1973 photo of Mural 2.

Pl. 19 Tulum Str. 1-Sub., rendering of Mural 3 showing an animal and vessel held in a hand. See Fig. 84 for approximate location. Painting by F. Dávalos.

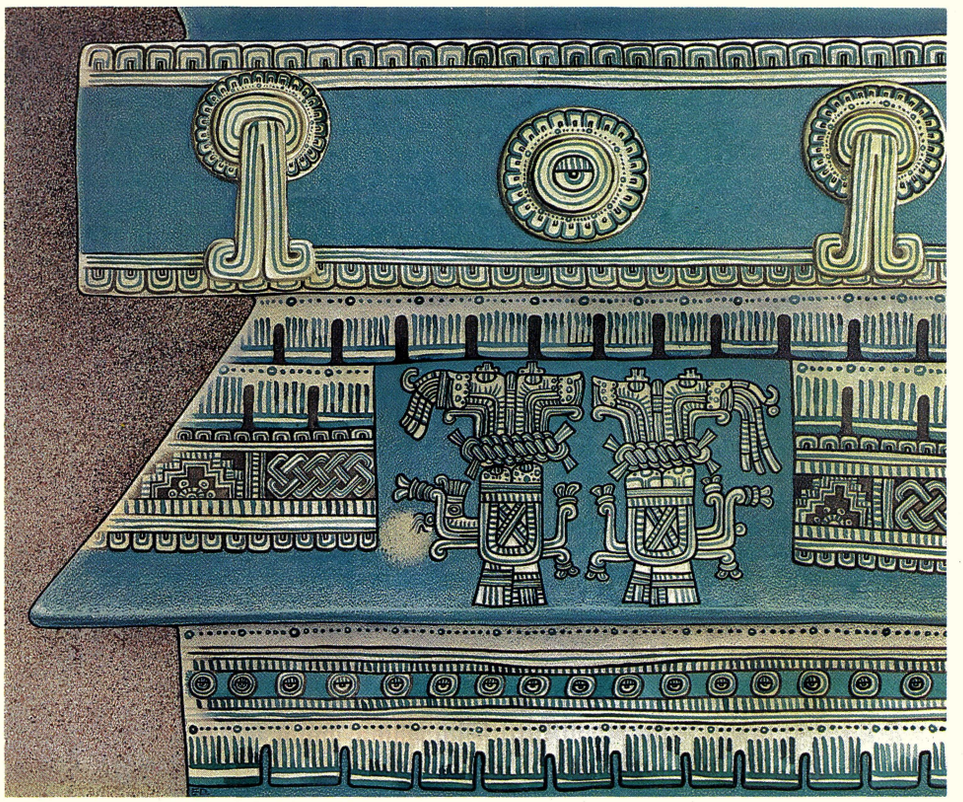
Pl. 20 Tulum Str. 1-Sub., 1973 photo of Mural 3. Configuration measures 31 × 23 cm.

Pl. 21 Tulum Str. 1-Sub., Mural 5 depicting a figure wearing a turquoise mask and holding an elaborate offering. Figure measures 78 × 54 cm. The bounding black outlines average 4 mm in width. See Fig. 84 for approximate location. Photo taken in 1973.

Pl. 22 Tulum Str. 1-Sub., north room, north wall mural, detail of feather ornaments, the black outlines of which average 8 mm in width. Photo taken in 1972.

Pl. 23 Tulum Str. 1, column paintings, upper and lower portions. Photo taken in 1972.

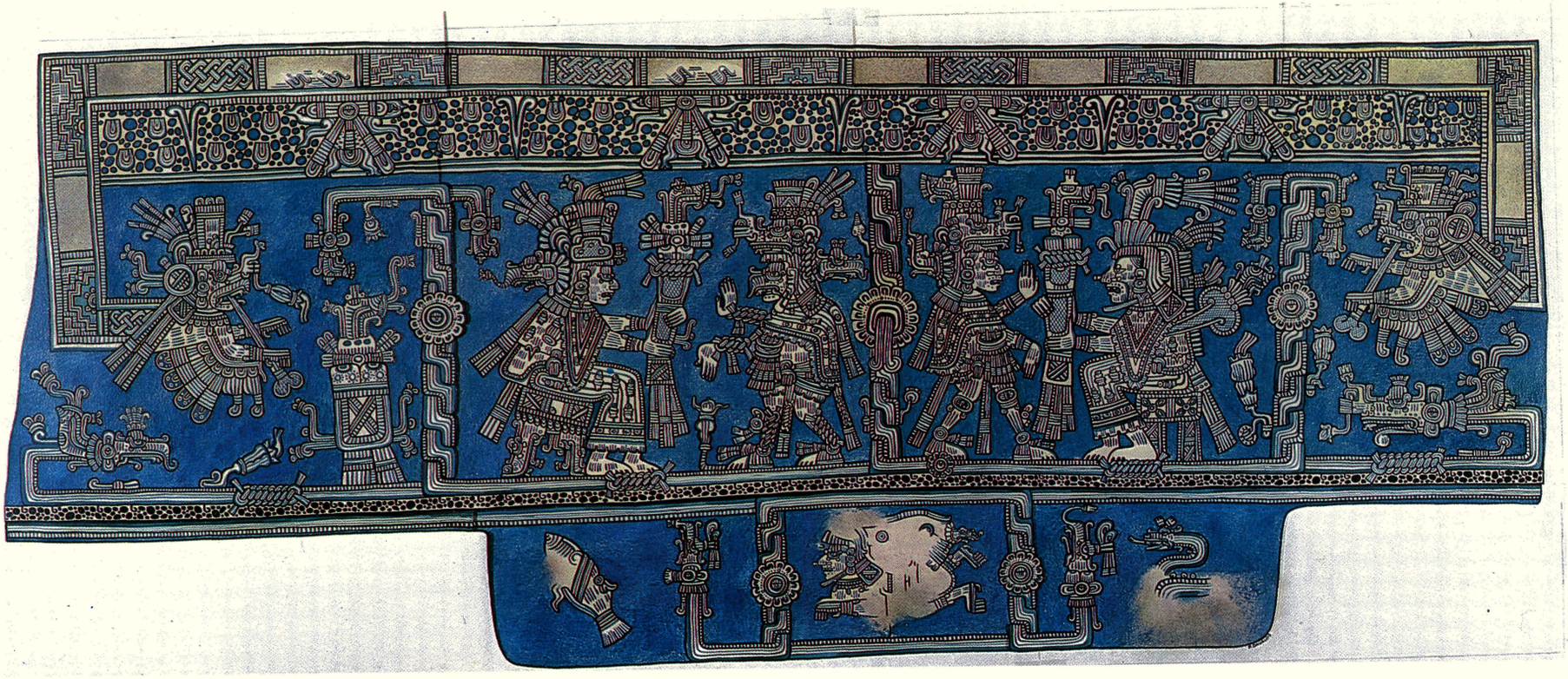
Pl. 24 Tulum Str. 1, column painting, lower portion. Painting by K. Grootenboer.



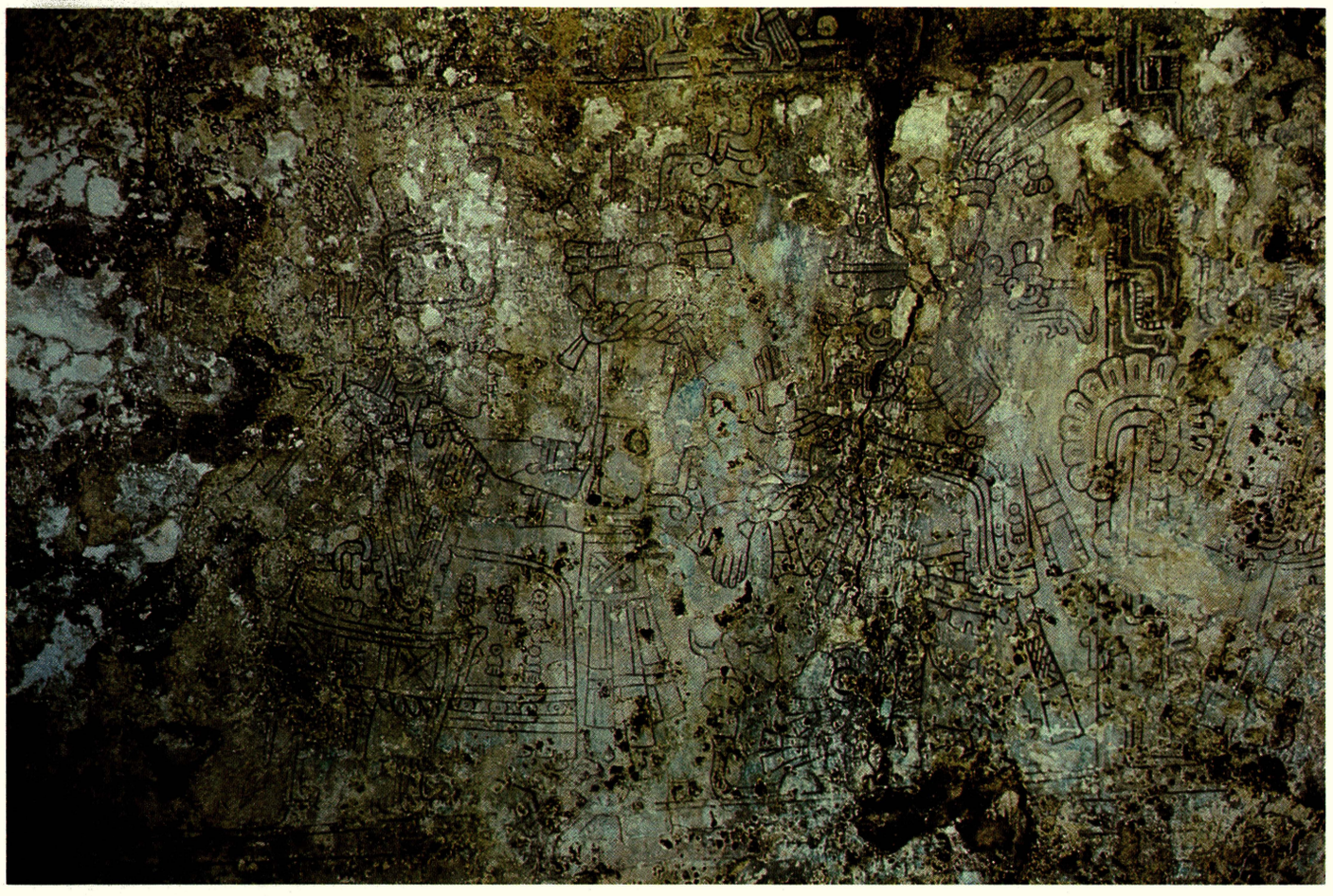
Pl. 25 Tulum Str. 5, upper façade. See 2 in Fig. 92 for location. Painting by F. Dávalos.

Pl. 26 Tulum Str. 5, Mural 2, fragments of the wall painting that once covered the lower façade. Photo taken in 1973.

Pl. 27 Tulum Str. 5, Mural 2, fragmentary mural painting showing a seated figure which is 36 cm in height. Photo taken in 1973.



Pl. 28 Tulum Str. 5, interior east wall, Mural 1, Late Post-Classic style, 142 × 361 cm.
See Fig. 92 for location. Painting by F. Dávalos.



Pl. 29 Tulum Str. 5, Mural 1, detail of standing and seated confronting figures, north end. Seated figure measures 66 × 46 cm. Photo taken in 1972.

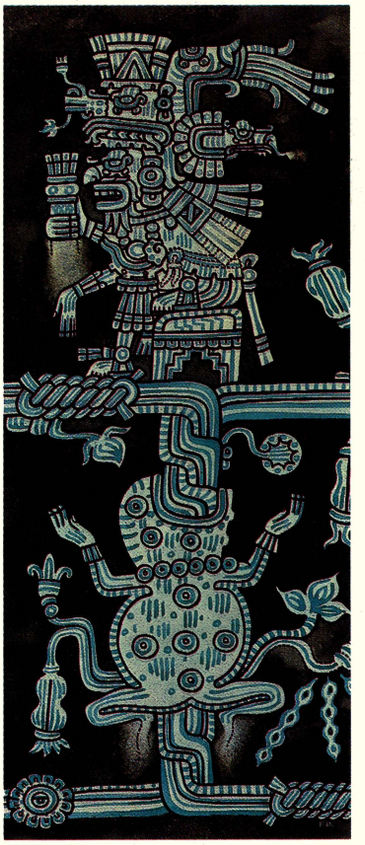
Pl. 30 Tulum Str. 16, west façade of upper room, red hands painted on the wall. Photo taken in 1973.

Pl. 32 Tulum Str. 16, southern corner of lower west façade, Mural 10. See Fig. 91 for location. Photo taken in 1972.

Pl. 31 Tulum Str. 16, southern corner of west façade. See 10 in Figure 91 for location. Painting by F. Dávalos.

Pl. 33 Tulum Str. 16, Mural 10, detail of Pl. 31. Painting by F. Dávalos.

Pl. 35 Tulum Str. 16, south corridor, Mural 7, detail of upper figure rendered in Pl. 34. Photo taken in 1972.



Pl. 34 Tulum Str. 16, south corridor, Mural 7, detail showing a seated figure above an earth monster-like creature spewing forth serpentine borders. See Fig. 91 for location. Painting by F. Dávalos.

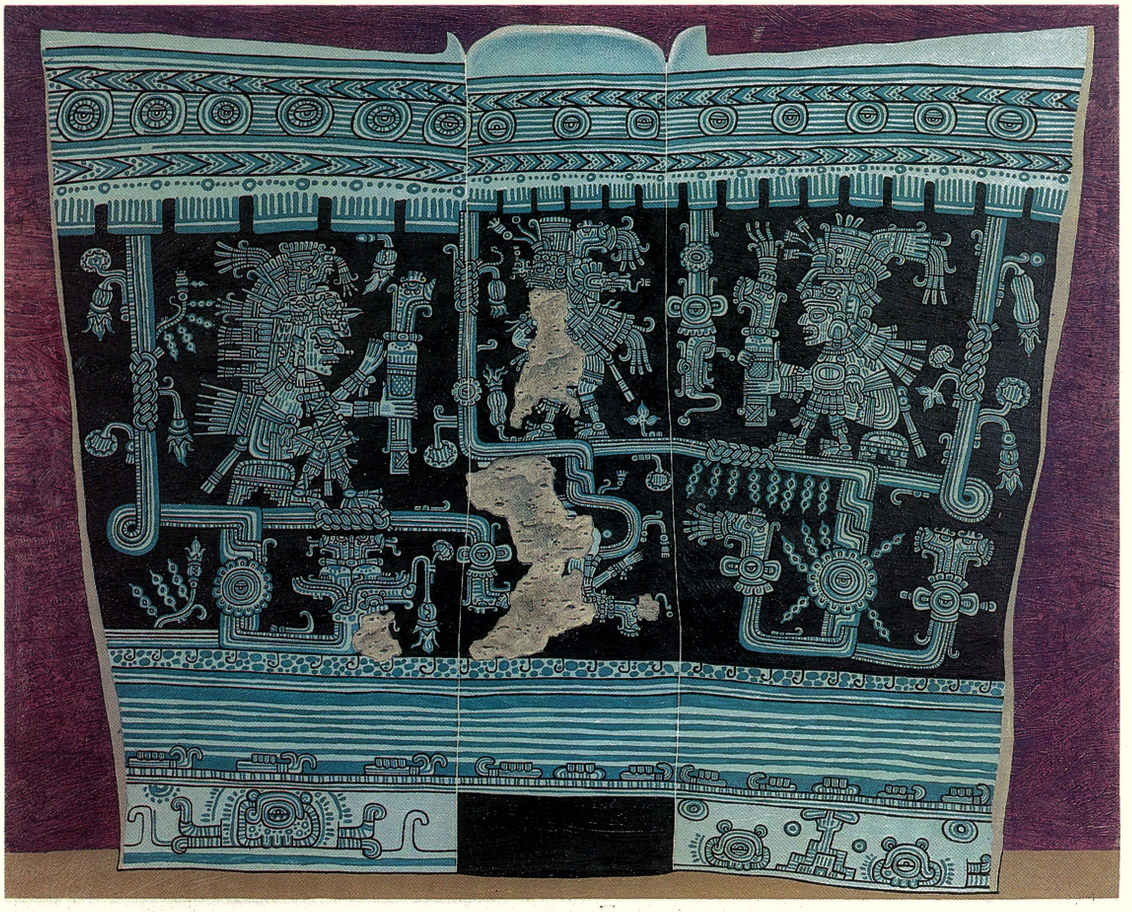
Pl. 36 Tulum Str. 16, south corridor, Mural 8, detail of a Chaac holding a hafted axe while straddling serpentine borders, figure measures 29 × 18 cm. See Fig. 91 for location. Painting by F. Dávalos.

Pl. 37 Tulum Str. 16, rendering of Murals 1, 2, 5. See Fig. 91 for locations.
Painting by F. Dávalos.

Pl. 38 Tulum Str. 16, 1974 photo of Mural 2. Mural measures 134 × 154 cm.

Pl. 39 Tulum Str. 16, Mural 3, showing variant *Lamat* and ray glyphs in upper band. See Fig. 91 for location. Painting by F. Dávalos.

Pl. 40 Tulum Str. 16, foldout rendering of Murals 4, 5, 6, covering the sides and front of the central column of the east wall, showing a partially obliterated falling deity at the lower portion of the column. See Fig. 91 for mural locations. Painting by F. Dávalos.



Pl. 41 Tulum Str. 25, vertical niche over the inner door, stucco representation of the Diving Deity with twisted cords trailing from him. Scant traces of paint were still visible in 1971 when this photo was taken.

Pl. 43 Xelha, Str. 26-Sub., inner room, mural detail showing a bird. Photo taken in 1977 when the room was cleared.

Pl. 42 Xelha, Str. 26-Sub., view of south wall of the inner room. Photo taken in 1974.

Pl. 44 Xelha Str. A, Mural 6, detail. Photo taken in 1975.

Pl. 45 Xelha Str. A, Mural 6, descending jaguar measures 116 × 155 cm. See Fig. 85 for location. Painting by F. Dávalos.

Pl. 46 Xelha Str. A, Mural 2. See Fig. 85 for location. Painting by F. Dávalos.

Pl. 47 Xelha Str. A, Mural 2, rendered in Pl. 46, 110 × 110 cm. White patches at the upper left and right are part of the final layer of whitewash, suggesting a period of use well into the Colonial Period. See Fig. 85 for location. Photo taken in 1975.